

Impact of Training Need Analysis on Employee Performance and Productivity in Madhya Pradesh Power Distribution Companies

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Abstract

Training Need Analysis (TNA) is a significant means of improving employee performance and productivity by addressing skill gaps and aligning training with the organization's needs. This study, therefore, aims to assess the TNA impact on Madhya Pradesh Power Distribution Companies with a focus on strengthening job performance, efficiency, and productivity. A mixed-method approach has been adopted by using surveys and performance appraisal methods. Data were collected on employees' training needs, effectiveness of training programs, and their impact. A sample of employees from different technical and non-technical departments was analyzed to see what relationship exists between structured training interventions and key performance indicators or KPIs. The results reveal the need for focusing training programs to bridge skill gaps and improve job satisfaction, while also entering operational efficiency. The research also reinforces the need for continuous training evaluation to ensure continuous development for the employee and prosperity for the organization. These findings will help guide policymakers and HR personnel in establishing training programs directed at maximizing workforce capabilities within the power distribution industry.

The study highlights the pivotal importance of Training Need Analysis (TNA) in respect to employee performance, productivity, and safety at the workplace in Madhya Pradesh Power Distribution Companies. It has been found that employee training programs, which are structured and implemented in a proper manner, lead to the enhancement of the employees' technical skills, job satisfaction, and safety adherence—thereby reducing workplace accidents. The study also emphasizes the need for periodic trainings to ensure that the skill sets of the employees keep pace with industry changes. These revelations imply that investing in employee training can serve as a powerful strategy to promote organizational effectiveness and sustain operational success in the power distribution business for a long time to come.

Keywords: Training Need Analysis, Employee Performance, Productivity

Introduction:

In today's rapidly evolving industrial landscape, employee training and development have become crucial for organizational success. The power distribution sector, being a critical infrastructure industry, demands a highly skilled workforce to ensure operational efficiency, service reliability, and

safety compliance. Training Need Analysis (TNA) serves as a strategic tool in identifying skill gaps, assessing training requirements, and designing effective training programs to enhance employee performance and productivity. This study focuses on understanding the impact of TNA on employees working in Madhya Pradesh Power Distribution Companies, exploring how structured training interventions contribute to workforce efficiency, job satisfaction, and overall organizational growth.

Background of the Study

Madhya Pradesh Power Distribution Companies play a significant role in supplying electricity to millions of consumers. These companies operate in a dynamic and challenging environment where technological advancements, regulatory changes, and increasing consumer expectations necessitate continuous up skilling of employees. The restructuring of the Madhya Pradesh State Electricity Board (MPSEB) into multiple independent entities has further highlighted the need for well-trained employees who can adapt to evolving job demands and maintain operational effectiveness.

The three primary power distribution companies in Madhya Pradesh—MP Madhya KshetraVidyutVitrان Company Limited (MPMKVVCL), MP PoorvKshetraVidyutVitrان Company Limited (MPPoKVVCL), and MP PaschimKshetraVidyutVitrان Company Limited (MPPaKVVCL)—collectively employ a large workforce, including technical and non-technical personnel. These employees are responsible for tasks ranging from power distribution management and consumer service to maintenance, safety compliance, and troubleshooting. Given the nature of the job, inadequately trained employees may lead to inefficiencies, safety hazards, and increased operational costs. Therefore, a well-structured TNA is essential to ensure that training initiatives align with organizational goals and address the skill development needs of employees.

Training Need Analysis: A Conceptual Overview

Training Need Analysis (TNA) is a systematic process used by organizations to assess training requirements based on employee competencies, job demands, and performance gaps. It helps in identifying the areas where employees require skill enhancement and ensures that training interventions are tailored to meet those needs. TNA typically involves three key levels of assessment:

Organizational Level Analysis – Evaluates the overall business goals, operational challenges, and future workforce requirements to determine how training can contribute to strategic objectives.

Task/Operational Level Analysis – Examines job-specific competencies, technical skills, and work processes to identify the skills required for effective performance.

Individual Level Analysis – Assesses the skills, knowledge, and performance of employees to determine individual training needs and career development opportunities.

Effective implementation of TNA leads to improved employee capabilities, enhanced job satisfaction, better decision-making, and increased organizational productivity.

Literature Review:

Training Need Analysis (TNA) has now been established as a central factor in ensuring enhanced employee performance as well as organizational efficiency, according to several studies in this field. TNA, designed properly, helps organizations address skill gaps and design training programs based on job profiles, thus contributing toward productivity and job satisfaction, Gupta & Sharma (2018) said. Similar findings were reported by Kumar et al. (2019), who devoted their entire study to the impact of

employee training programs in power distribution companies and concluded with the recommendation that structured training interventions helped improve technical competency and safety compliance, thereby reducing workplace accidents. Similarly, Mishra & Verma (2020) investigated training effectiveness in the Indian power sector; they found that systematic TNA generates substantial operational efficiency and retention improvements. Reddy & Chaturvedi (2021), in their study, examined the role of employee training in achieving organizational goals and concluded that organizations investing in continuous skill enhancement have shown improvement in measurable terms, such as service quality, decision-making, and customer satisfaction. Singh & Patel (2022) pointed out that the comparative studies on the impact of training programs in public sector enterprises show that organizations that take a proactive approach to training see much higher workforce engagement and performance improvements. Collectively, these studies reinforce the significance of TNA in allowing training programs to impact employee skill development, improvement of safety in the workplace, and overall organizational success.

Research objectives

1. To analyze employees' training needs in Madhya Pradesh Power Distribution Companies.
2. To assess the impact of training on performance, productivity, and job satisfaction.
3. To examine the role of training in minimizing electrical accidents and safety risks.

Research Hypothesis

H₀₁: There is no significant need for training among employees in Madhya Pradesh Power Distribution Companies.

H₀₂: Training programs have no significant impact on employee performance, productivity, and job satisfaction.

H₀₃: Training programs do not significantly contribute to minimizing electrical accidents and safety risks.

Research method

This study employs a descriptive approach to analyze the impact Training Need Analysis in Madhya Pradesh Power Distribution Companies 100 male and 100 female workers has been taken for the present study in Bhopal, Madhya Pradesh. The research targets the city's population and scope of study. Data is collected through questionnaires, with a sample size of 200 individuals from Bhopal. Stratified random sampling is used to segment the population into strata based on gender, age, education, and income.

H1. There is no significant need for training among employees in Madhya Pradesh Power Distribution Companies.

Table 1 Comparative result of need for training among employees in Madhya Pradesh Power Distribution Companies

Gender	Number	Mean	SD	CR	level of Significance
Male	100	16.24	3.75	8.41	Significance at 0.01
Female	100	20.21	3.24		

df = 198

Table value at .01 level of significant = 2.63

The comparative need analysis for training among employees in Madhya Pradesh Power Distribution Companies indicates a significant gender disparity among their workers. Male employees scored a mean of 16.24 with a standard deviation of 3.75, while female employees scored a mean of 20.21 with a standard deviation of 3.24. The computed Critical Ratio (CR) is 8.41, which is greater than the table value of 2.63 at 0.01 level of significance.

These findings denote that female employees perceive a greater need for training compared to male employees. The differences that have emerged are so significant that it brings in the aspects of gender determining the perception and need for training among employees. This might have been influenced by differences in job roles, training exposure, and skill development opportunities in the organization. These findings underline how critical it is to customize the training program to cater to the particular needs of different groups in order to increase the efficiency and job performance of employees across the board.

Thus null hypothesis 1 is rejected.

H2. Training programs have no significant impact on employee performance, productivity, and job satisfaction.

Table 2 Comparative result of impact on employee performance, productivity, and job satisfaction

employee Productivity	Number	Mean	SD	CR	level of Significance
High	108	28.48	2.71	17.8	Significance at 0.01
Low	92	20.63	3.50	5	

df = 198

Table value at .01 level of significant = 2.63

The comparison of employees based on their performance, productivity, and job satisfaction shows that training outcomes have considerable divergence between employees scoring high against those scoring low in these attributes. The mean score for employees indicating high performance, productivity, and job satisfaction is 28.48 with a standard deviation of 2.71, while that for employees indicating low performance, productivity, and job satisfaction gets a score of 20.63 with a standard deviation of 3.50. The calculated Critical Ratio (CR) is 17.85, which far exceeds the table value of 2.63 at the 0.01 level of significance.

It is seen that training plays a significant role in determining the performance, productivity, and job satisfaction level of employees. High performance, productivity, and job satisfaction were noticed among trained and well-trained employees in comparison to other employees that were not so well trained or exposed to training. There have been remarkable differences found in this respect, indicating that adequately structured and relevant training is a factor enhancing work efficiency and motivation in employees. Organizations should give priority to training initiatives, as they are generally a means to develop a workforce-level overview of organizational goals.

Thus null hypothesis 2 is rejected.

H3. Training programs do not significantly contribute to minimizing electrical accidents and safety risks.

Table 3 Comparative result of contribute to minimizing electrical accidents and safety risks

S. No.	Statement		1	2	3	4	5
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1	Training programs have increased my awareness of workplace safety measures.	Male	5	8	20	40	27
		Female	3	6	15	45	31
2	The company provides sufficient safety training to prevent electrical accidents.	Male	7	12	25	35	21
		Female	4	9	18	43	26
3	Training has helped me understand and follow safety protocols more effectively.	Male	6	10	22	38	24
		Female	5	8	16	44	27
4	I have witnessed a reduction in workplace accidents due to training programs.	Male	8	14	26	34	18
		Female	6	10	20	42	22
5	The training has prepared me to handle emergency situations at work.	Male	4	9	23	41	23
		Female	3	7	19	46	25
6	Safety training programs should be conducted more frequently.	Male	5	11	19	42	23
		Female	4	9	14	47	26

The comparative analysis of training programs' role in minimizing electrical accidents and safety risks highlights the significant impact of safety training on employees. A majority of both male and female employees responded positively to the effectiveness of training in improving workplace safety awareness, accident prevention, and emergency preparedness. Workplace Safety Awareness: 67% of males (40 Agree, 27 strongly Agree) and 76% of females (45 Agree, 31 strongly Agree) acknowledged that training programs increased their awareness of workplace safety measures. Sufficiency of Safety Training: 56% of males (35 Agree, 21 strongly Agree) and 69% of females (43 Agree, 26 strongly Agree) agreed that the company provides adequate safety training. Understanding Safety Protocols: 62% of males (38 Agree, 24 strongly Agree) and 71% of females (44 Agree, 27 Strongly Agree) felt that training helped them understand and follow safety protocols more effectively. Reduction in Workplace Accidents: 52% of males (34 Agree, 18 strongly Agree) and 64% of females (42 Agree, 22 strongly Agree) reported witnessing a reduction in workplace accidents due to training programs. Emergency Preparedness: 64% of males (41 Agree, 23 strongly Agree) and 71% of females (46 Agree, 25 strongly Agree) believed that training has prepared them to handle emergency situations better. Need for More Frequent Safety Training: 65% of males (42 Agree, 23 strongly Agree) and 73% of females (47 Agree, 26 strongly Agree) strongly supported the need for more frequent safety training programs.

The findings suggest that training programs significantly contribute to reducing workplace electrical accidents and enhancing safety awareness among employees in Madhya Pradesh Power Distribution Companies. Female employees show slightly higher agreement rates than males regarding the effectiveness of training. The majority believe that regular and structured training programs have helped them follow safety protocols, respond to emergencies, and minimize workplace accidents. Furthermore, a strong demand for more frequent safety training reflects employees' recognition of its importance in ensuring a safer work environment. Thus null hypothesis 3 is rejected.

Conclusion

The results revealed in the study suggest that training has a significant influence on employee performance, productivity, and workplace safety in Madhya Pradesh Power Distribution Companies. A comparative analysis of training needs of employees found a marked difference in their perceived need for training between male and female employees, with the former being more in need of training as per their perception. It has been shown that training has a clear impact on performance, productivity, and job satisfaction: employees who have benefited from structured training perform significantly better, achieve higher productivity levels, and exhibit higher degrees of job satisfaction compared to their peers. They strongly supported reinforcement of training in decreasing electrical accidents and safety risks, as most employees believe that safety training has improved awareness, preparedness, and compliance with safety protocols, thus reducing accidents at the workplace. Given these findings, structured and continuous training is sufficient to fulfill the skill development requirements of employees and at the same time can also contribute towards enhanced organizational efficiency, safety, and overall success in power distribution operations. Hence, such entities should keep pouring in investments in training and development of their employees into the future to improve workforce competency, adherence to safety measures, and sustainability in the long run.

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