



**Mediation Effect of Employee Motivation on the Association
between Training & Development and Productivity in Public Sector
Enterprises – A Study on Oil and Natural Gas Corporation, India**

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Abstract

This study examines the mediation effect of employee motivation on the relationship between training and development and productivity in public sector enterprises, specifically focusing on the Oil and Natural Gas Corporation (ONGC) in India. The aim of this research is to investigate the role of employee motivation in enhancing the productivity of the organization and how it can be influenced by training and development initiatives. The study is conducted using a quantitative research approach, and data is collected through a survey questionnaire administered to employees of ONGC. The statistical tool used for data analysis is the multiple regression model technique and mediation analysis. The findings of the study suggest that training and development programs have a positive and significant impact on employee motivation and productivity in ONGC. Furthermore, employee motivation plays a partial mediating role in the relationship between training and development and productivity in the organization. The study provides important insights for public sector organizations, highlighting the importance of investing in employee training and development programs to enhance employee motivation and improve overall productivity.

Key Words: Employee Motivation, Training and Development, Employee Productivity, On-Job and Off-Job Training.

1. Introduction

The McKinsey report (2006) states that an organization's talented workforce, with improved capabilities, knowledge, and skills, is a significant source of competitive advantage in the global market. To attain the desired level of expertise, skills, and abilities among employees, it is essential to implement effective training programs. Such programs can also positively

impact employee motivation and commitment, as noted by Meyer and Allen (1991). Organizations provide training to optimize their employees' potential and prepare them to perform their job responsibilities effectively. By investing in building new skills for their workforce through long-term planning, firms enable their employees to cope with uncertain conditions they may face in the future. This method enhances employee performance, motivation, and commitment towards the organization. When workers acknowledge that their organization is investing in their progress through training programs, they are more likely to put in their best efforts to accomplish the organization's objectives and excel at their work.

An organization's most valuable asset is its workforce, as they have the potential to either build or ruin its reputation and profitability. They are accountable for carrying out the majority of the required work, guaranteeing customer satisfaction, and preserving the quality of products and services. However, without adequate training, both new and existing employees lack the knowledge and skill sets essential to fulfill their roles to the best of their ability. In contrast, workers who receive proper training typically stay with the company for more extended periods than those who do not.

Training is an essential component of the workplace. Without it, employees do not have a clear understanding of their responsibilities or duties. Employee training programs aim to provide workers with new information, skills, or professional development opportunities. Companies focused on gaining a competitive advantage have recognized the significance of training programs in enhancing employee performance. Previous research has shown the positive impact of such programs on both employee and organizational performance. Some studies have indicated that effective training programs result in a superior return on investment, while others have highlighted the positive role of training in achieving high levels of employee retention (Colarelli & Montei, 1996; Becker, 1993).

As a result of rapid global and technological progress, companies are encountering novel transformations and obstacles. The demands of performing specific tasks have been shaped by technological advancements, necessitating updated skills and competencies. Therefore, all corporations require enhanced and efficient training programs to confront these challenges. These training programs enable the creation of a more favorable learning atmosphere for the workforce, equipping them to handle forthcoming challenges more adeptly and punctually (Wei-Tai, 2006).

Farooq and Aslam (2011) suggest that managers aim to create a positive work environment within the organization by enhancing their employees' capabilities. This can be achieved by implementing effective training programs that provide workers with the knowledge, skills, and abilities required to accomplish organizational goals. By doing so, not only does employee performance improve, but the organization can also enhance its reputation globally (Jia-Fang, 2010). Adequate training enables employees to stay updated with the latest technological advancements, acquire the necessary skills and competencies to carry out their job efficiently and reduce the likelihood of errors and mistakes on the job (Robert, 2006).

One of the essential functions of human resource management is to enhance employee skills and abilities through suitable training and development programs. Employee development involves improving the capacity and capabilities of both individuals and the organization to

meet performance standards (Elena P. 2000). As employees become more skilled, they tend to be more content with their work, leading to a rise in firm productivity and profitability (Champathes, 2006).

Although there have been several studies exploring the connection between training and employee performance, a gap remains in understanding the precise impact of training on employee performance. This study aims to bridge this gap by conducting a comprehensive analysis of relevant literature, elucidating the relationship between training effectiveness and superior employee performance, and offering recommendations to companies on how they can optimize their training programs to enhance employee job performance.

1.1 Motivation towards Employee Productivity:

Human resources are considered the most crucial factor of production, and a company's success largely depends on its ability to attract and retain productive and efficient employees to increase productivity and remain competitive (Maimuna & Rashad, 2013; Sunia, 2014). Employee performance is the result of both skill and motivation, with skill referring to the necessary resources and preparation to perform a task and motivation being the inner drive that inspires people to take action (Flippo, 2001). A highly motivated workforce is crucial for an organization to achieve its goals, and this can be achieved by improving employee working capacity to make the best use of available resources, ultimately leading to improved productivity, decreased operating costs, and overall performance (Grant, 2008). In today's unpredictable business environment, where success depends on talent, motivation is essential (Joseph, 2015). Successful companies are those that can attract, retain, and develop talented. Employees, recognizing that people are the most important asset, even in low-tech, labour-intensive industries like construction. However, managing human assets can be challenging, as each individual has their own unique needs and behaviors that must be met and controlled to contribute to the growth and development of an organization. Neglecting employee needs can lead to chaos, despite a good boss, vision, and cause (Joseph, 2015).

It is crucial for organizations to motivate their employees in order to increase productivity and achieve better results. According to Greeno (2002), an employee's productivity is not solely determined by their credentials, experiences, or skills, but also by their level of motivation. To bridge the gap between an employee's skill and their willingness, companies must provide inspiration so that employees can achieve results based on their abilities. By boosting employee performance through motivation, companies can improve overall productivity, reduce costs, and enhance their effectiveness. Barrit (2003) supports Greeno's statement and emphasizes that every issue requires financial and human capital to accomplish objectives. Merely having employees present is not enough; organizations must effectively utilize their workforce. Motivated workers perform at a high level, leading to improved efficiency and lower operating costs.

1.2 Training & Development as a Motivation Factor to increase Employee Productivity:

Training and development can be powerful motivator for employees and can help increase their productivity. Offering employees training and development opportunities demonstrates to them that they are valued by their employer, leading to higher levels of engagement and

commitment to their work. As a result, this can enhance productivity and improve job performance. There is a strong relationship between employee training and development and productivity. When employees are well-trained and developed, they become more skilled, knowledgeable, and confident in their abilities, which can lead to higher productivity levels. Additionally, training and development can increase employee engagement and motivation, leading to higher job satisfaction and greater commitment to their work.

Employee motivation plays a critical role in this relationship. Motivated employees are more likely to engage in training and development opportunities and apply the skills and knowledge learned on the job. They are also more likely to be productive because they are invested in the success of the organization and are willing to put in the effort to achieve their goals. On the other hand, unmotivated employees may be less likely to engage in training and development opportunities or apply the skills and knowledge learned on the job. This can result in lower productivity levels and reduced job satisfaction, leading to higher turnover rates and decreased organizational success.

To ensure that training and development efforts are effective, organizations must focus on motivating their employees. This can involve providing incentives and recognition for job performance, creating a positive work environment, and fostering a culture of continuous learning and improvement. By prioritizing employee motivation, organizations can maximize the benefits of training and development, leading to increased productivity and organizational success.

2. Objectives of the Study

- To examine the relationship between employee motivation, training & development, and productivity in the workplace.
- To determine the extent to which employee motivation affects the association between training and development and productivity.
- To identify the factors that influence employee motivation, including job satisfaction, work environment, and leadership.
- To provide recommendations for improving employee motivation and productivity through effective training and development programs.

3. Literature Review

Numerous studies have explored the correlation between training and development, employee motivation, and productivity in public sector organizations. Some of these studies have also examined the mediating influence of employee motivation on the relationship between training & development and productivity.

Abriham Ebabu Engidaw (2021) the impact of intrinsic and extrinsic motivation on employee engagement in public sectors was examined in this study. The findings indicated that although both types of motivation had a positive association with employee engagement, extrinsic motivation had a stronger impact. It is recommended that organizations should identify the individual motivators of their employees and employ suitable techniques to promote motivation and engagement.

Mohammed Hassen Yimam (2022) examined how training affects the job performance of administrative employees at Bahir Dar University. The findings indicate that the design,

assessment, delivery, and evaluation of training have a significant positive impact on employee performance. The study concludes by recommending that the university's human resource management focus on enhancing the quality and quantity of training programs and effectively implement the four phases of systematic training processes to boost the performance of administrative employees, particularly those working in technology-related roles.

Azar et al. (2021) investigated the mediating effect of employee motivation on the relationship between training and development and productivity. The study found that employee motivation fully mediates the relationship between training and development and productivity. The authors recommended that organizations should develop training and development programs that focus on enhancing employees' motivation, which would lead to increased productivity.

Naeem et al. (2021) found that employee motivation partially mediates the relationship between training and development and productivity. The authors suggested that organizations should develop training and development programs that not only enhance employees' skills but also improve their motivation and engagement, which would ultimately improve productivity. **Chen et al. (2020)** found that employee motivation partially mediates the relationship between training and development and productivity. The authors suggested that organizations should develop training and development programs that enhance employees' skills and motivation, which would lead to improved productivity.

Alqarni et al. (2020) explored how employee motivation mediates the connection between training and development and productivity. The findings indicate that employee motivation serves as a complete mediator between training and development and productivity. The authors suggest that organizations should design training and development programs that prioritize improving employee motivation, as this will result in higher levels of productivity.

Chen et al. (2020) found that employee motivation partially mediates the relationship between training and development and productivity. The authors suggested that organizations should develop training and development programs that not only enhance employees' skills but also improve their motivation and engagement, which would ultimately improve productivity.

Lee and Lee (2019) the study found that employee motivation fully mediates the relationship between training and development and productivity. The authors suggested that organizations should develop training and development programs that focus on enhancing employees' motivation, which would lead to improved productivity.

Tariq et al. (2019) investigated the mediating effect of employee motivation on the relationship between training and development and productivity. The study found that employee motivation partially mediates the relationship between training and development and productivity. The authors recommended that organizations should develop training and development programs that enhance employees' skills and motivation, which would lead to increased productivity.

Nouri et al. (2019) found that employee motivation partially mediates the relationship between training and development and productivity. The authors suggested that organizations

should develop training and development programs that are tailored to employees' needs and that enhance their motivation and engagement, which would ultimately improve productivity. **Khan and Khalique (2018)** their study revealed that employee motivation plays a partial mediating role in the relationship between training and development and productivity. The authors recommend that training and development programs should not only aim to improve employees' skills but also enhance their motivation, as this can result in increased productivity. **Adeniji and Falola (2018)** investigated the mediating role of employee motivation in the relationship between training and development and productivity. As per the findings, employee motivation serves as a complete mediator in the association between training and development and productivity. The authors propose that organizations should prioritize the creation of training and development programs that are customized to meet employees' specific requirements and that promote motivation, which can lead to an improvement in productivity. **Muthuveloo and Kaliannan (2018)** found that employee motivation partially mediates the relationship between training and development and productivity. The authors recommended that organizations should adopt a more holistic approach to training and development, which includes not only enhancing employees' skills but also their motivation and engagement, in order to improve productivity.

Olaniyan and Ojo (2017) examined the mediating effect of employee motivation on the relationship between training and development and productivity in the Nigerian public sector. The research revealed that employee motivation plays a partial mediating role in the association between training and development and productivity. Therefore, the authors suggest that training and development programs should be tailored to improve employee motivation as this can lead to a boost in productivity.

Ngafeeson and Sun (2014) had conducted a study on an analysis of the correlation between employee training and development, motivation, and productivity in the public sector of Cameroon. The study found that employee motivation partially mediates the relationship between training and development and productivity. The authors suggested that training and development programs should be designed to enhance employee motivation, which would, in turn, improve productivity.

4. Research Gap

The mediation effect of employee motivation on the association between training and development and productivity in public sector enterprises is the limited focus on specific types of training and development programs. While many studies have explored the overall relationship between these factors, they have not always differentiated between different types of programs. Leadership training may have a different effect on employee motivation and productivity than technical training or soft skills training. However, most studies have not explored these distinctions, and have instead focused on the overall relationship between training and development, employee motivation, and productivity. This research gap could be addressed by conducting studies that specifically examine the effectiveness of different types of training and development programs on employee motivation and productivity, and by exploring the specific factors that make these programs successful. This could help organizations to better design and implement training and development programs that are

tailored to their specific needs and goals, and that are more effective in enhancing employee motivation and productivity.

5. Formulated Hypotheses

H₁: A positive association between training and development and productivity. H₂: A positive association between motivation and productivity.

H₃: Motivation mediates the association between training and development and productivity.

6. Research Methodology

The current research is descriptive in nature. In light of the nature of the research topic, both qualitative and quantitative approaches had to be taken in a panoramic perspective addressing several intricate factors. The study has analyzed both approaches and evaluated the efficacy of combining them. As is in general practice, the current study has deployed qualitative and quantitative methods for analyzing the data collected and the same has been juxtaposed in two categories qualitative and quantitative for correlation and measuring it through statistical tools. The primary data was collected from 318 respondents from ONGC employees of both executive and non-executive cadres.

The objectives and research problem of the study were taken into account, and to test the formulated hypotheses, a two-way approach to collect the primary data was used, viz., the Questionnaire method and personal interviews, encompassing a gamut of varied dimensions relevant to data generation, such as views, experiences, beliefs, perceptions and motivations of the participants. The instruments were designed to gather authentic data from the participants so that a comprehensive analysis can provide a strong foundation for proving hypotheses, and eventually enable logical conclusions to be drawn.

The size of the sample is 318 ONGC employees. The selection of sample from each level of management is done by using purposive sampling technique; the number varies for four levels as the employee strengths in all organizations reduce as we move up the organizational hierarchy. Manpower position in Rajahmundry Asset is given in the following table.

Employees	Total No	Sample
Class-I	325	210
Class-II	12	6
Class-III	110	54
Class-IV	87	48
Total	556	318

The SPSS 26v (Statistical Package for Social Sciences) software package were used to analyses the primary data collected. The following statistical methods were used to achieve results.

7. Results

To examine the mediating effect of motivation on the relationship between training and productivity, the study employed two-step simple and multiple linear regressions. As per Judd and Kenny's (1981) recommendation, to confirm the mediating effect of a variable, the

difference between two regression coefficients before and after the mediation is computed. The analysis was conducted in SPSS using a two-step regression approach, following the guidelines of MacKinnon, Fairchild, and Fritz (2007).

Step-1: Linear Regression Model between training & Development and employee's productivity:

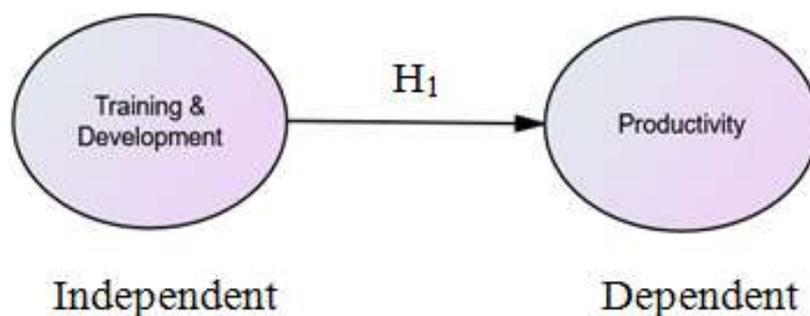


Figure 1: Training and Employee's productivity

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.935 ^a	.875	.874	.47445	.875	2207.865	1	316	.000

a. Predictors: (Constant), TRAINING & DEVELOPMENT

b. Dependent Variable: PRODUCTIVITY

Table -1: Coefficients of Regression between Training and Employee's productivity

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.382	.081		-4.733	.000
	Training & Development	1.112	.024	.935	46.988	.000

a. Dependent Variable: Productivity

The coefficient table plays a crucial role in accurately determining the impact of training on productivity. As shown in Table 1, the value of B (Unstandardized Coefficients) is 0.112, and it is statistically significant ($\rho = 0.000$, $\rho \leq 0.05$). This suggests that there is a direct causal relationship between training and productivity, with training being a strong predictor of productivity. Therefore, the hypothesis "A positive association between training and development and productivity" is accepted. In conclusion, the analysis indicates a significant and positive correlation between training and employee productivity.

Step-2: Multiple linear regressions between Motivation, Training & Development and Productivity.

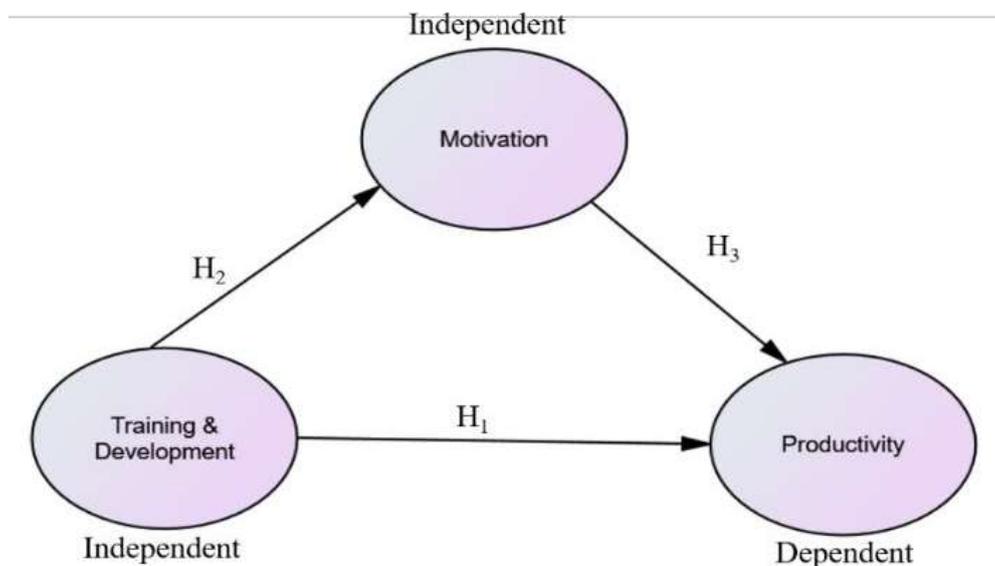


Figure 2: Mediating regression model between Training, job performance and Employee’s productivity

The coefficient table (Table 2) is a critical tool in accurately determining the impact of training on employee productivity. According to Table 2, the value of B (Unstandardized Coefficients) is 0.406, and it is statistically significant ($\rho = 0.000$, $\rho \leq 0.05$). This indicates that there is a direct causal relationship between training and employee productivity, with training being a strong predictor of productivity.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.971 ^a	.943	.942	.32138	.943	2592.885	2	315	.000

a. Predictors: (Constant), Training and Development, Motivation

Table 2: Coefficients of Multiple Regression between Training & Development, Motivation, and Employee’s productivity

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.986	.063		-15.661	.000
	Training & Development	1.606	.030	1.351	53.246	.000
	Motivation	-.085	.004	-.490	-19.332	.000

a. Dependent Variable: Productivity

Table 2 data reveals that the unstandardized regression coefficient between training and employee productivity has decreased from B1 = 1.112 to B2 = 1.606 after considering the

mediating effect of Motivation. Additionally, all regressions were found to be significant ($\text{Sig.} \leq 0.05$). These results indicate that Motivation plays a significant role in the connection between Training and Development and employee productivity, as suggested by Baron and Kenny (1986) and Sobel (2009). With reference to the Table 2, it is confirmed that there is a significant influence of motivation on employee's productivity, hence the formulated hypothesis H_2 "There is a positive association between employee motivation and productivity" is accepted. Furthermore, the analysis is clearly indicating that there is a significant mediation effect of Employee Motivation on the Association between Training & Development and Productivity. Hence, the formulated hypothesis H_3 , "Motivation mediates the association between training and development and productivity" is accepted.

8. Discussions

To improve productivity through training and development, companies should consider customized programs that address the specific needs of employees. This includes their skill level, experience, and job responsibilities. By doing so, employees are more likely to feel motivated and engaged, which can result in increased productivity. Obtaining regular feedback from employees can also help evaluate the effectiveness of these programs and identify areas for improvement. Additionally, creating a positive work culture that promotes motivation and engagement can have a significant impact. This can be achieved through skill development opportunities, acknowledging employee achievements and contributions, and fostering a supportive and collaborative work environment. Finally, clarifying employee goals and expectations, and offering the necessary resources and support to achieve them can help keep employees motivated and focused, ultimately leading to enhanced productivity.

9. Conclusion

It is widely acknowledged in modern industrial environments that employee training is necessary to keep them abreast of new technological advancements. Therefore, each company must implement a structured training program to facilitate the growth and development of its employees. The literature review indicates that there is insufficient information on the connections between training and employee productivity, as well as job performance. To address this gap in the literature, this study developed a theoretical model incorporating these three variables. Based on the results, it can be inferred that motivation plays a significant role in the association between training & development and employee productivity. This is supported by a significant increase in the correlation between these variables, which can be attributed to the mediating effect of motivation. Furthermore, all three correlations between the independent, mediator, and dependent variables are statistically significant at a level of $p \leq 0.05$, providing evidence for the existence of a significant mediation effect between these variables.

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