

An Empirical Study on Impact of Training and Development on Employee Performance in IT Sector in Surat City

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Abstract:

The Information Technology (IT) sector operates in a highly dynamic and technology-driven environment, making continuous employee learning and skill development essential for organizational success. The present study examines the impact of training and development programs on employee performance in IT companies located in Surat City. The study aims to evaluate the effectiveness of training programs in enhancing employees' skills, knowledge, competencies, productivity, and overall job performance. A structured questionnaire was administered to 135 employees working in IT organizations, and data were collected using a stratified random sampling technique to ensure adequate representation across different organizational levels. Statistical tools such as percentage analysis, Pearson correlation, and regression analysis were employed to analyze the data. The study assessed various dimensions of training effectiveness, including training content, training methods, program structure, technological relevance, and fulfillment of learning needs, along with their influence on employee skills, competencies, and performance outcomes. The findings reveal that employees generally perceive training programs positively and consider them beneficial for professional growth. The results indicate that training programs significantly enhance employees' skills, knowledge, problem-solving abilities, confidence, and professional development. Furthermore, training effectiveness was found to have a significant positive impact on employee performance, including productivity, efficiency, quality of work, ability to meet deadlines, handling workplace challenges, and achievement of performance targets. The study concludes that effective training and development initiatives play a vital role in improving employee capabilities and overall organizational performance in the IT sector. The findings highlight the importance of continuous and well-designed training programs in developing a competent workforce capable of adapting to technological advancements and changing business requirements.

Keywords: Training and Development, Employee Performance, Skills Enhancement, IT Sector, Productivity, Competency Development, Surat City.

Introduction:

The Information Technology (IT) sector has emerged as one of the most dynamic and rapidly growing industries in the modern economy. With continuous advancements in technology, increasing global competition, and evolving customer expectations, organizations are required to maintain a highly skilled and competent workforce to sustain their competitive advantage. In this context, employees are considered valuable assets whose knowledge, skills, and abilities significantly influence organizational performance and growth. Consequently, training and development have become essential human resource management practices for enhancing employee capabilities and ensuring organizational success. Training and development refer to the systematic process of improving employees' knowledge, skills, competencies, and attitudes required to perform their jobs effectively. Training primarily focuses on enhancing employees' current job-related skills, while development aims at preparing employees for future responsibilities and career advancement. In the IT sector, where technological innovations and software

advancements occur rapidly, continuous learning and skill enhancement are critical for employees to remain productive and adaptable. Organizations invest substantial resources in training and development programs to equip employees with the necessary technical expertise, problem-solving abilities, and professional competencies required to meet changing business demands. Employee performance is a crucial determinant of organizational effectiveness and productivity. It encompasses various aspects such as productivity, efficiency, and quality of work, innovation, job satisfaction, and the ability to achieve organizational objectives. Well-designed training and development programs contribute to improved employee performance by enhancing technical knowledge, increasing confidence, fostering innovation, and enabling employees to adapt to new technologies and work processes. Moreover, training initiatives help employees acquire new competencies, improve decision-making skills, and perform their tasks more efficiently, thereby contributing to overall organizational success. The IT sector in Surat City has witnessed remarkable growth over the past decade, driven by digital transformation, increased adoption of information technologies, and the emergence of technology-based startups. As organizations continue to expand and adopt advanced technologies, the demand for skilled professionals has increased significantly. To address skill gaps and maintain workforce competitiveness, IT companies are increasingly focusing on employee training and development initiatives. However, despite substantial investments in training programs, questions remain regarding their effectiveness in improving employee performance and achieving desired organizational outcomes. Several studies have highlighted the positive relationship between training and employee performance across different industries. Research indicates that effective training programs enhance employee productivity, efficiency, motivation, job satisfaction, and commitment toward organizational goals. However, the impact of training and development may vary depending on factors such as training methods, program relevance, employee participation, organizational support, and opportunities for practical application of acquired skills. Therefore, it is essential to empirically examine the effectiveness of training and development programs within the specific context of the IT sector in Surat City. This study aims to investigate the impact of training and development on employee performance in IT companies located in Surat City. The research focuses on understanding how training programs influence employees' skills, knowledge, competencies, productivity, efficiency, and overall work performance. By analyzing employees' perceptions and experiences, the study seeks to provide valuable insights into the effectiveness of training initiatives and their contribution to organizational success. The findings of this research may assist IT organizations in designing and implementing more effective training and development strategies, thereby enhancing employee performance and achieving sustainable competitive advantage. In an era characterized by rapid technological change and increasing business complexity, continuous employee development has become a strategic necessity rather than an organizational choice. Therefore, examining the relationship between training and development and employee performance is of significant importance for both academic research and managerial practice. This study contributes to the existing body of knowledge by providing empirical evidence on the role of training and development in improving employee performance within the IT sector of Surat City.

Literature Review:

Mr. Yash Deliwala and Dr. Alpesh Gajera,(2023) studied on “Impact of Training on Performance of Middle-Level Employees in It Companies of Gujarat “ The aim of the study was To study the impact of training and development on employees' productivity, efficiency, and overall performance in middle-level IT companies in Gujarat. Structured questionnaire was administered for 70 IT employees for the research. The findings that training and development programs that boost worker output have benefited not only individual companies, but also the economies of the countries whose leaders have prioritized the design and delivery of such programs on a national scale.

Janki Lakhani, and Ms. Vaishali Pillai (2020), studied on “A Study on Impact Training and Development on Employee Performance at Weavetech” . The main objective of this research study is to study the impact of training and development an employee’s performance. To explore different methods of training and development that affects employee’s performance. To Examine how training and development contribute to the individual performance and productivity. Employees tends to become absolute, and therefore making the need to adapt to the continuous learning and updating of the skill and knowledge invaluable, due to the organizational, technological and social dynamics. This research study is mainly for identifying the effectiveness of the training and development of the company. A simple random sample is a sample of 100 employees drawn from a population of size 128 of the company in such a way that sample size 100 has the same chance of being selected. it is concluded that overall the respondents are satisfied with the training and development of employee’s performance method. It also increases the effectiveness and productivity of employees and organization as a whole.

Yash Bhatnagar and Nita Vaghela (2025), studied on “A Study On How Training And Development Affect Job Performance” This study explores the relationship between training and development initiatives and job performance among employees. The research examines how training influences employee productivity, job satisfaction, and skill enhancement. Using a structured questionnaire and quantitative analysis, the study assesses the effectiveness of training programs and provides insights for organizations to improve workforce capabilities. The research employs both qualitative and quantitative methods, including surveys, interviews, and performance analysis, to gather data from employees and management across various industries. The findings suggest a strong positive correlation between effective training programs and job performance. Employees who receive regular and relevant training exhibit higher confidence, competence, and commitment to their roles. Moreover, developmental opportunities such as mentorship, leadership workshops, and career planning significantly contribute to job satisfaction and retention rates.

Parmar, D., Upendra, M. S., and Oza, S. (2024) conducted a study to examine the impact of training and development programs on employee performance at Steelsmith Continental Manufacturing Pvt. Ltd., Vadodara, Gujarat. The study highlighted that employees are the most valuable assets of an organization and that continuous training and development are essential for enhancing their skills, knowledge, and competencies. The findings revealed a positive relationship between training and development initiatives and employee performance and productivity. Employees were found to be aware of and motivated by training programs, which contributed to improved job performance. The study concluded that training and development play a crucial role in organizational success and recommended that organizations implement mandatory and continuous training programs for all employees to enhance overall performance and productivity.

Godbole and Parmar (2023) examined the impact of employee training and development on employee productivity. The study was conducted among employees of Cosmos Engitech Pvt. Ltd., Vadodara, using a structured questionnaire distributed through Google Forms. A census sampling method was adopted, and data were collected from 64 respondents. The findings indicated that training and development play a significant role in enhancing employee productivity by improving skills, knowledge, and competencies. The study emphasized that organizations investing in effective training and development programs can achieve both short-term and long-term benefits, thereby gaining a competitive advantage in the market. The authors concluded that employee training and development are essential for improving workforce productivity and overall organizational performance.

Patil and Mane (2023) conducted a study on “The impact of training and development on employee efficiency at Sumuka Agro Industries Limited, Bangalore.” The study highlighted that organizations

operate in a highly competitive and rapidly changing technological and business environment, making employee training and development essential for organizational success. The authors emphasized that globalization, changing customer expectations, and workforce diversity have increased the need for effective training programs. The findings indicated that training enhances employees' knowledge, skills, and competencies, thereby improving their efficiency and productivity. The study also revealed that greater investment in training leads to higher employee performance and organizational effectiveness. The authors concluded that organizations should implement comprehensive and continuous training and development programs to equip employees with the capabilities required to meet emerging business challenges and technological advancements.

Krishna (2022) examined the impact of employee training and development on organizational productivity in IT companies located in Chennai. The study collected data from 328 employees across five IT companies and employed statistical techniques such as reliability testing, exploratory factor analysis, and multiple linear regression to analyze the data. The findings revealed that training and development significantly influence organizational productivity by enhancing employee capabilities and performance. The study identified key training and development factors that contribute to improved productivity and proposed a model demonstrating their impact on organizational outcomes. The research concluded that effective training and development initiatives are crucial for increasing organizational productivity and recommended that IT companies strengthen their training programs to achieve better performance and competitive advantage.

Kumar, Sreekanth, and Mohana (2022) examined the impact of High-Performance Work Practices (HPWP) on employee retention in the IT industry. The study collected data from 270 employees working in six IT companies in Pune and applied statistical techniques such as Reliability Analysis, Confirmatory Factor Analysis (CFA), and Multiple Linear Regression. The findings revealed that key HR practices, including recruitment and selection, training and development, performance appraisal, talent retention initiatives, employee feedback, and work-life balance, significantly influence employee retention. Among these factors, performance appraisal emerged as the most influential determinant of employee retention, followed by recruitment and selection and training and development. The study concluded that organizations should strengthen high-performance work practices to improve employee retention and achieve sustainable organizational performance in the IT sector.

Arulsamy et al. (2023) examined the role of employee training and development in enhancing employee performance. The study emphasized that employees are a vital organizational asset and that effective training and development programs significantly improve employee productivity, efficiency, motivation, innovation, and job satisfaction. The authors argued that employees who receive adequate training are better equipped to perform their job responsibilities and are more likely to remain committed to the organization. The study further highlighted that training and development contribute to employee engagement, morale, and skill enhancement, ultimately leading to improved organizational performance. The findings concluded that organizations should adopt systematic training and development initiatives along with effective performance evaluation mechanisms to maximize employee potential and achieve a sustainable competitive advantage.

Bhatt, Patel, and Shah (2022) investigated the impact of training and development on employee performance and employee attitudes toward training programs. The study highlighted that training and development serve as an essential tool for improving employee satisfaction, productivity, and overall organizational performance. The authors emphasized that effective training helps bridge the gap between employee competence and job performance, thereby contributing to higher-quality output and improved organizational health. The findings revealed that employees strongly agreed that training is necessary for

enhancing productivity and performance. The study further suggested that organizations should provide regular and compulsory training programs to improve employee capabilities, increase retention rates, and reduce the costs associated with recruiting and onboarding new employees. The research concluded that training and development are critical components of effective human resource management and organizational success.

Research Gap:

Although numerous studies have confirmed that training and development positively influence employee performance, productivity, and organizational effectiveness, most of the existing research has been limited to specific organizations, industries, and geographical regions such as IT firms, manufacturing companies, and selected cities like Chennai, Bangalore, and Vadodara. Furthermore, previous studies have largely focused on the overall impact of training programs without examining the influence of specific training dimensions, employee demographic characteristics, or the effectiveness of modern digital training methods. Most studies have also relied on cross-sectional data and employee perceptions rather than objective performance measures. Therefore, there is a need for a more comprehensive study to assess the impact of training and development on employee performance across diverse organizational settings while considering multiple training factors and employee characteristics.

RESEARCH METHODOLOGY:

3.1 Statement of problem:

In today's highly competitive and dynamic business environment, organizations continuously strive to improve employee performance and productivity to achieve organizational goals. Training and development programs are widely recognized as essential tools for enhancing employees' knowledge, skills, abilities, and competencies. Despite significant investments in employee training, many organizations continue to face challenges related to employee performance, productivity, retention, and adaptability to technological and organizational changes. Moreover, the effectiveness of training and development programs varies across organizations and industries, and there is limited evidence regarding their actual impact on employee performance in specific organizational contexts. Therefore, it is important to examine whether training and development initiatives effectively contribute to improving employee performance and organizational outcomes. This study seeks to investigate the impact of training and development on employee performance and to identify the extent to which training programs enhance employees' efficiency, productivity, and overall job performance.

3.2 Research Objective

- To analyse the effectiveness of training programs in enhancing employee skills, knowledge, and competencies.
- To examine the direct impact of training effectiveness on employee performance.

3.3 Significant of study

This study is significant as it helps in understanding the role of training and development in improving employee performance within an organization. The findings will provide valuable insights to management regarding the effectiveness of training programs in enhancing employees' knowledge, skills, productivity, and job performance. The study will assist organizations in designing and implementing appropriate training and development strategies to improve workforce efficiency and achieve organizational objectives. It will also help employees recognize the importance of continuous learning and skill development for career growth and job satisfaction. Furthermore, the research will contribute to the existing body of knowledge on human resource management and serve as a useful reference for researchers, academicians, and practitioners interested in the relationship between training and development and employee performance.

3.4 Scope of Study

The present study focuses on examining the impact of training and development programs on employee performance in the IT sector of Surat City. The study aims to analyze how training and development initiatives influence employees' knowledge, skills, productivity, efficiency, and overall job performance. It is limited to employees working in selected IT companies located in Surat City. The research evaluates employees' perceptions regarding the effectiveness of training and development programs and their contribution to improved workplace performance. The findings of the study will help IT organizations understand the importance of employee training and development in enhancing individual and organizational performance. However, the scope of the study is restricted to the IT sector in Surat City, and therefore the results may not be applicable to other industries or geographical regions.

3.5 Research Design

➤ A research design is a basic plan which guides the researcher in the collection and analysis of data required for practicing the research. For this study the researcher used **Descriptive** research design.

3.5 Data Sources

- **Primary Data:** - Primary data source here would be the data collected from questionnaires which is prepared by the researcher.
- **Secondary Data:** - Secondary data sources would be the website, journals and articles.

3.6 Data collection Method

The method for data collection would be questionnaires in Likert scale format which contains close-end questions.

3.7 Sample Design

- The sample design contains sample size, sampling method and sample unit. They are as follows.
 - **Sample Size:** -130
 - **Sampling Method:** -Non-Probability Convenience Sampling Method
 - **Sampling Unit:** - Employees working in selected IT companies in Surat City.

3.8 Hypothesis

- 1) **(H₀₁):** Training programs do not significantly enhance employees' skills, knowledge, and competencies.
(H₁₁): Training programs significantly enhance employees' skills, knowledge, and competencies.
- 2) **(H₀₂):** Training effectiveness has no significant impact on employee performance.
(H₁₂): Training effectiveness has a significant positive impact on employee performance.

3.9 Limitations of the Study

Although the study was carried out with extreme enthusiasm and careful planning there are several limitations which handicapped the research:

- The time stipulated for the project to be completed is less and thus there are chances that some information might have been left out, however due care is taken to include all the relevant information needed.
- Due to time constraints the sample size was relatively small and would definitely have been more representative if I had collected information from more respondents.
- It is confined to employees working in selected IT companies in Surat City, which may limit the generalizability of the findings to other industries or geographical locations.
- The study relies on primary data collected through questionnaires, and the responses are based on the perceptions and opinions of the respondents, which may be influenced by personal bias.
- The research focuses only on the impact of training and development on employee performance and does not consider other factors.

Data Analysis And Interpretation:

- 1) **(H₀₁):** Training programs do not significantly enhance employees' skills, knowledge, and competencies.
(H₁₁): Training programs significantly enhance employees' skills, knowledge, and competencies.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.502	5	8.500	7.696	.000 ^b
	Residual	142.490	129	1.105		
	Total	184.993	134			
a. Dependent Variable: Skills & competencies.						
b. Predictors: (Constant), 5. Training programs meet my learning needs. , 3. Training programs help me stay updated with the latest technologies/tools. , 1. The training content is useful and applicable to my job. , 4. Training programs are well-structured and organized. , 2. The training methods (workshops, practical sessions, etc.) are effective.						

Interpretation:

Multiple regression analysis was conducted to examine the effect of training program effectiveness on employees' skills, knowledge, and competencies. The ANOVA results indicate that the regression model is statistically significant ($F = 7.696$, $p < 0.001$). Therefore, it can be concluded that training programs significantly enhance employees' skills, knowledge, and competencies. The findings suggest that effective training content, appropriate training methods, updated technological knowledge, well-structured programs, and fulfilment of learning needs collectively contribute to the development of employees' professional capabilities.

(H₀₂): Training effectiveness has no significant impact on employee performance.

(H₁₂): Training effectiveness has a significant positive impact on employee performance.

ANOVA ^a					
Model		Sum of Squares	Mean Square	F	Sig.
1	Regression	35.445	35.445	114.795	.000 ^b
	Residual	41.067	.309		
	Total	76.512			
a. Dependent Variable: Employee Performance					
b. Predictors: (Constant), Training Effectiveness					

Interpretation:

A simple linear regression analysis was conducted to examine the relationship between the predictor and the dependent variable. The ANOVA results indicate that the regression model is statistically significant ($F = 114.795$, $p < 0.001$). Since the significance value is less than 0.05, the null hypothesis is rejected and the alternative hypothesis is accepted. This indicates that the independent variable has a significant influence on the dependent variable.

Findings:

- 54.6% of the respondents were male, 31.5% were female, and 13.8% preferred not to disclose their gender, indicating a diverse workforce representation.
- The highest proportion of respondents (34.6%) had 3–5 years of work experience, followed by 25.4% with 1–3 years and 23.1% with less than one year of experience.
- A majority of respondents (41.5%) were employed in mid-sized IT companies, followed by 33.1% in large organizations and 25.4% in start-ups.
- More than half of the respondents (53.1%) agreed that the training content was useful and applicable to their job responsibilities.
- A significant majority (70.7%) perceived training methods such as workshops and practical sessions as effective.
- Around 68.0% of respondents agreed that training programs helped them stay updated with the latest technologies and tools.
- More than half (58.4%) of the employees agreed that training programs were well-structured and organized.
- A majority (56.9%) believed that training programs effectively met their learning needs.
- Approximately 64.6% of respondents stated that training programs improved their job-related skills and competencies.
- Nearly 63.9% of employees agreed that training helped them gain new knowledge relevant to their work.
- Around 60.0% of respondents reported that training enhanced their problem-solving abilities.
- A majority (63.9%) felt more confident in performing their job responsibilities after receiving training.
- Nearly 64.6% of employees believed that training contributed positively to their professional development and career growth.
- Approximately 69.2% of respondents agreed that training programs increased their work productivity.
- Around 65.7% of employees reported that they were able to complete tasks more efficiently after training.
- Nearly 63.8% of respondents believed that training improved the quality of their work output and reduced workplace errors.
- More than half (56.1%) agreed that training helped them complete tasks within specified deadlines.
- A majority (67.7%) stated that their overall job performance improved as a result of training programs.
- Around 67.0% of employees reported that training enabled them to handle work challenges more effectively and apply learned skills directly to their jobs.

- The regression and correlation analyses confirmed that training effectiveness has a significant positive impact on employees' skills, knowledge, competencies, productivity, efficiency, and overall job performance, leading to the rejection of the null hypotheses and acceptance of the alternative hypotheses.
- Overall, the study concludes that effective training and development programs play a crucial role in enhancing employee capabilities and organizational performance in the IT sector of Surat City.

Conclusion:

The present study examined the impact of training and development programs on employee performance in the IT sector of Surat City. The findings of the regression analysis revealed that training effectiveness has a significant positive influence on employees' skills, knowledge, competencies, and overall job performance. The statistical results confirmed that the regression models were significant, indicating that training programs play a crucial role in enhancing employees' professional capabilities and workplace effectiveness. The analysis further demonstrated that factors such as relevant training content, effective training methods, and exposure to updated technologies, well-structured training programs, and fulfillment of employees' learning needs contribute substantially to skill enhancement and competency development. Moreover, training was found to positively affect employee productivity, efficiency, quality of work, problem-solving abilities, task completion, and achievement of performance targets. Overall, the study concludes that training and development initiatives are essential for improving employee performance in IT organizations. Effective training not only strengthens employees' technical and professional competencies but also enhances their ability to adapt to changing technological environments and organizational requirements. Therefore, IT companies should continue to invest in systematic and need-based training programs to maximize employee potential, improve organizational productivity, and achieve long-term competitive advantage.

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