A STUDY ON EFFECTIVENESS OF TRAINING AND DEVELOPMENT IN IT SECTORS WITH SPECIAL REFERENCE TO BANGALORE SOUTH

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ABSTRACT
Training and development have become vital strategic tools in the IT sector due to rapid technological changes and intense competition. This study analyses the effectiveness of training and development programs and their impact on employee performance, job satisfaction, motivation, and organizational effectiveness. A descriptive research design was adopted using primary data collected from 166 IT employees through a structured questionnaire and secondary data from journals and reports. Statistical tools such as percentage analysis, correlation, chi-square test, and ANOVA were applied. Findings show training enhances skills, productivity, confidence, and career growth, though gaps exist in post-training feedback and practical application.

Key words: training and development, employee performance, it sectors, skill development organizational effectiveness, career growth.

INTRODUCTION
Training and development are essential for enhancing employee skills and organizational performance, especially in the fast-growing IT sector. Rapid technological changes and competition require employees to be competent, adaptable, and motivated. Training programs improve job-related skills and technical knowledge, while development initiatives support long-term career growth and leadership. Effective training increases productivity, job satisfaction, and employee retention. Continuous learning helps bridge skill gaps, making the evaluation of training and development programs crucial for sustainable growth and competitive advantage.

Research background
The IT sector faces rapid technological changes, requiring continuous skill development. This study examines the impact of training and development programs on employee performance, job satisfaction, and organizational effectiveness, while identifying gaps in current training practices and suggesting improvements to enhance productivity and adaptability**.**

Objectives of the study
- To evaluate the effectiveness of training and development programs in improving employee performance in the IT sector.
- To examine the impact of training and development on employee motivation, job satisfaction, and productivity.

Statement of the problem
- Despite significant investment in training and development programs, many IT organizations face challenges in assessing their actual effectiveness on employee performance and productivity.
- There exists a gap between the training provided and the practical application of acquired skills in the workplace, affecting overall organizational effectiveness.

Scope of the study

- The study focuses on evaluating the effectiveness of training and development programs among employees in selected IT organizations.
- It examines the impact of training on employee performance, job satisfaction, productivity, and organizational effectiveness within a limited geographical area.

Limitations of the study

- The study is limited to a specific sample size and selected IT organizations; hence, the findings may not be generalized to the entire IT sector.
- The data collected is based on respondents' perceptions and opinions, which may be subject to personal bias and time constraints.

RESEARCH METHODOLOGY

Sampling plan

The study uses a Convenience sampling technique to select employees from selected IT organizations. A sample size of 166 respondents was chosen to ensure fair representation. Data were collected through a structured questionnaire, providing unbiased and reliable information for analysing training and development effectiveness.

Convenience sampling

The type of research used in this project is convenience in nature. The main goal of this type is to describe the data and characteristics about what is being studied. Convenience sampling is a type of non-probability sampling that involves the sample being drawn from that part of the population that is close to hand.

Methods of the study

Data was gathered from both primary and secondary sources of information. The questionnaire is the source of collecting primary data and the secondary data are collected from various books, journals, websites.

1. **Primary data** – Primary data refers to information collected firsthand for the first time. In this study, primary data was gathered using a well-designed structured questionnaire, and the required information was collected through Google Forms.

I had a set of 25 questions and requested to the respondents for the correct information's through google forms.

2. **Secondary data** – secondary data is a type of data that has been collected in the past. It includes various information's from books, websites etc.

Statistical tool

- Percentage Analysis
- Chi square

Percentage Analysis

Percentage analysis is a statistical tool used to analyse and interpret the data collected from respondents. It helps in understanding the distribution of responses and comparing different categories in a simple and meaningful manner.

The formula used for percentage analysis is:

$$\text{Percentage} = \frac{\text{Total Number of Respondents}}{\text{Number of Respondents}} \times 100$$

Chi- square

Chi-square is a statistical test commonly used to compare observed data with data one would expect to obtain according to specific hypothesis. The chi-square test is always testing what scientists call the null hypothesis, between the expected and observed stares that there is no significant difference result.

The formula for calculating:

Chi-square =(O-E)2/E

ANALYSIS AND INTERPRETATION

Percentage Analysis

- The respondents are mostly young, entry-level employees with graduate qualifications and lower income levels, indicating an early-career workforce in the IT sector.
- A majority of employees have participated in training programs, with technical and in-person training being the most common.
- Most respondents agree that training is relevant, up to date, and applicable to their job roles.
- Training programs have a positive impact on productivity, performance, confidence, and career growth, supported by managerial encouragement.
- While overall perception of training is positive, post-training feedback mechanisms need improvement, and employees strongly support continuous and advanced training.

Chi-square Analysis

Chi-square analysis between age and training effectiveness on employee performance

Null hypothesis (Ho): There is no association between Age and Training Effectiveness on Employee Performance

Alternative hypothesis (H_1): There is an association between Age and Training Effectiveness on Employee Performance

	Value	Df	Asymptotic Significance
Pearson Chi-Square	20.018[a]	16	**0.219**
Likelihood Ratio	14.548	16	0.558
Linear-by-Linear Association	3.403	1	0.065
N of Valid Cases	166		

Interpretation: Since the chi-square significance value (0.219) is greater than 0.05, the null hypothesis is accepted. Hence, there is no significant association between age and training effectiveness on employee performance

Chi-square analysis between gender and training effectiveness on employee performance Null hypothesis (H_0): There is no association between Gender and Training Effectiveness on Employee Performance

Alternative hypothesis (H_1): There is an association between Gender and Training Effectiveness on Employee Performance

	Value	Df	Asymptotic Significance
Pearson Chi-Square	8.806[a]	8	**0.359**
Likelihood Ratio	9.220	8	0.324
Linear-by-Linear Association	2.502	1	0.114
N of Valid Cases	166		

Interpretation: Since the chi-square significance value (0.359) is greater than 0.05, the null hypothesis is accepted. Hence, there is no significant association between gender and training effectiveness on employee performance.

Findings

- The chi-square analysis shows no significant association between age and training effectiveness on employee performance, as the calculated significance value (0.219) is greater than the p- value (0.05).
- The chi-square test also indicates no significant association between gender and training effectiveness on employee performance, since the significance value (0.359) exceeds 0.05.
- The results suggest that training effectiveness is perceived similarly across different age groups and genders among IT employees.

Suggestions

- As training effectiveness does not vary significantly by age or gender, IT organizations should adopt inclusive, skill-based training programs focused on job roles and competency development, with greater emphasis on practical learning and real-time problem-solving.
- Organizations should strengthen post-training evaluation and managerial support, while promoting blended learning and continuous upskilling to enhance skill application, improve productivity, support career growth, and ensure long-term organizational effectiveness.

Conclusion

The study concludes that training and development significantly improve employee skills, performance, and organizational effectiveness in the IT sector. Training is perceived as equally effective across age and gender. While continuous learning supports career growth, gaps in feedback and practical application remain. Therefore, IT organizations should update training methods and strengthen evaluation mechanisms to maximize outcomes.

Review of literature

- Bramley & Kitson (1994), “Four Levels of Training Evaluation”, discussed trainee reaction, learning, behavior, and organizational results in training evaluation.
- Mann & Robertson (1996), “Evaluating Training Effectiveness”, examined trainee reactions and learning and cautioned against using attitudes to predict performance.
- Hashim (1991), “Training Evaluation Practices”, identified commonly used methods such as trainee feedback, observation, interviews, and reaction forms.
- Cushway (1994), “Training and Employee Development”, emphasized training as a means to equip employees with job-related knowledge and skills.
- Bramley, P. & Newby, A. C. (1984), “Evaluation of Training: Part II – The Organizational Context”, examined organizational factors affecting training evaluation.
- B. R. Virmani & Premila Seth (1985), “Training Evaluation and Organizational Effectiveness”, highlighted benefits such as improved communication and human relations.