A Study on Employee Performance and Training Practices

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Abstract

In a dynamic business environment where things are changing at a faster rate and prevails high competition, employee training and development holds an important place in the organization for enabling employees to carry out their tasks better and attain the company's goals. This study investigates how training appropriateness and training effectiveness affect employee work performance; examines two key factors: training effectiveness and training appropriate cause improve employee performance in jobs. The study was conducted on manufacturing companies in South Bengal, India. This study considers relevant theory such as Human Capital Theory and the Resource-Based View. The primary data were collected through a well-structured questionnaire. Out of 291 questionnaires that were given to manufacturing concerns, 151 respondents filled them out correctly. The data was analysed with the help of Exploratory Factor Analysis, Confirmatory Factor Analysis and Structural Equation Modelling to understand the relationship between training and development and employee performance. The results show that training effectiveness significantly improves employee performance. The main factors like easy to understand training content, good trainers and interesting training sessions help employees to work better. The study also observed that even if the right training is provided it does not impact employee performance at work. This implies that employees carry out their jobs better when the training is taught systematically.

Keywords: Training effectiveness, Training appropriateness, Employee work performance, Manufacturing companies, Structural Equation Modelling, Resource based theory.

Introduction

In an age characterized by fast technological change, globalization, and high competition pressures, business firms specially manufacturing industries are forced to continuously improve their internal capabilities to sustain performance and growth. The effort to improve is particularly seen in developing regions such as South Bengal, where manufacturing sectors varies from traditional, medium, and large scale units. To grow and survive in the changing business environment, these different manufacturing companies must attempt to increase the productivity level, operational efficiency, and quality of product. Among the different organizational resources, employees signify a vital asset whose intelligence, skills, and abilities significantly affect organizational effectiveness. Consequently, employee training and development have become principal to human resource strategies line up in boosting individual and organizational performance (1).

In West Bengal, all the different industries significantly contribute to the economic development of the country India; however, manufacturing industries in South Bengal play an important role in regional economic development by creating ample of job opportunities, assisting the ancillary industries, and contributing to industrial output, at the same time many manufacturing firms in this area experience challenges such as labour shortage, traditional/outdated work methods, underperformance, technological malfunction, and quality control issues. These challenges call attention to the growing importance of training and development of workforce for enhancing competence and organizational performance.

Training and development includes systematic activities outlined to improve employees' job-related skills, knowledge, and attitudes, thereby allowing them to carry out their tasks more effectively (2). Training is basically intended on enhancing present job performance through skill development and behavioral adjustment, while development focused long-term learning and make employees ready for future roles and responsibilities (3). When development successfully implemented, these capabilities help employees adjust to changing work requirements, minimize performance gaps, and enhance overall performance/ productivity.

In South Bengal manufacturing industries, training and development are not just supportive functions but act as key drivers of high efficiency. Many manufacturing firms are using new technology or machinery, smart production systems, and lean manufacturing practices. Without sufficient training, employees may face difficulties to operate and adapt to these changes, lead to poor performance and resistance to innovation. Therefore, effective training programs are essential to align employee potential so that business efficiency and organizational performance or goal can be achieved.

The effectiveness of training and development programs implies to the extent to which these abilities achieve their desired objectives, especially in terms of improving employee performance result such as effective, work's quality, critical thinking abilities (4). Several empirical studies have constantly revealed a positive association between well-structured training programs and employee work outcome, job satisfaction, and organizational dedication (5). Employees who receive adequate training tend to show higher morale and competence, allowing them to perform more purposefully to organizational objectives.

Alike important is the appropriateness of training and development initiatives. Appropriateness refers to the pertinence of training content, alliance with job requirements, appropriateness of training approaches, and responsiveness to employees' actual educational requirements (6). Training programs that are misaligned with organizational standards or employee roles may fail to surrender performance improvements, result in inefficient use of business firms' resources. For manufacturing industries in South Bengal, where the education, experience, and skill levels of different workforce is significantly high, training programs must be carefully designed as per the requirement of local conditions and employee capabilities. Inappropriate training or poorly aligned with job requirements can result in loss of resources and less improvement in employee performance. Therefore, organizations must certify that training resourcefulness is thoughtfully planned after a careful consideration of training requirements analysis and performance expectations.

Manufacturing organizations spend a large amount of capital on training and development activities. These high investments must generate benefits in terms of enhancing the standard of output, efficiency, and competitiveness. However, in the literature, most of the studies focused on the large companies and service sectors, there are very few studies on the effectiveness and appropriateness of training and development practices in manufacturing sectors in South Bengal.

This research paper's aim is to probe the workforce training and development in improving employee work performance within the manufacturing firms located in South Bengal. The study primarily emphasizes on the effective and appropriate training and development programs and their effect on organizational performance. By examining these factors, the study attempts to offer applied knowledge for manufacturing firms, human resource managers, and policymakers to formulate better training programs tailored to regional industrial requirements.

Finally, reinforcement training and development methods in manufacturing organizations in South Bengal can help not only in achieving business goal but also in employment generation, and local industrial development. The results of this study are expected to assist human resource managers in making informed decision and fostering a long-term growth in the manufacturing sector.

Training and Development (T&D) form the basis for employee performance and increased competitiveness following it. When training and development is done effectively, an organization can reduce the gap between their culture and employees' behaviours; therefore; productivity increases; innovation increases (7). Today, all Human Resource Management (HRM) frameworks include lifelong learning (LLL) and ongoing upskills as required to keep a workforce adaptable to rapid changes in the digital environment. In addition to a shift toward sustainability and digital transformations, training and development programs continuously emphasize the importance of both hard skills and soft skills in order to support holistic employee growth. According to a study there is a direct relationship between employee training and employee engagement, which acts as a conduit for connecting Development Initiatives with Organizational Outcomes, including but not limited to: Performance, Commitment, and Employee Retention (8).

The most tangible benefit of well-designed training programs is the improvement in employee performance. A study revealed that an organization that provides continual in-house training improves employee performance where digital skills training provides rural local businesses with the ability to innovate and continually grow in the digital economy (9). Training elements of Human Capital act as a buffer between company culture and employee behaviour, resulting in improved organizational commitment and employee motivation (7). Yet according to another work demonstrated that motivation and employee well-being significantly impact the success of employee training programs (10).

Recent research on organizational learning and development has shown that an individual's effectiveness in the workplace depends heavily on the type of training offered, as well as how that training is presented in relation to their learning process. This has led researchers to conclude that the best way to determine what works for learners is to look at training from a systematic standpoint, rather than as "one-time events" (11). The results of their analysis have shown that when structured properly following sound scientific principles, training produces significantly more effective and efficient training outcomes than training conducted without these principles.

The focus on the broader context of the workplace was examined by yet another author who view learning in the 21st century workplace as consisting of many different types and levels of learning (12). This includes formal learning through training programmes, informal learning through social networks and interactions with coworkers and the sharing of knowledge. They propose a thematic model of workplace learning that emphasizes innovative designs and delivery systems for learning, opportunities to facilitate learning, expanded outcomes that go beyond operations expertise, and enhanced methodologies for researching workplace learning. The message in this review is that learning does not occur as an event during formal training, but rather it occurs continuously in the daily course of work when an employee is working or completing a task and through the incorporation of organizational knowledge into their processes.

According to a notable work, a conceptualization of research regarding Human Resource Management (HRM) and Information Technology (IT) that looks forward into the future. Rapid technological change is impacting on the scope, nature and impact of HRM practices. They base their argument using the Harvard model of HRM; however, they argue there is an increasing need to understand HRM in a more contextualised manner, to expand stakeholder perspectives and to consider the long-term consequences of actions taken in HRM in the Digital Age (13).

Talent development is normally referred to as being part of the talent management process (14). An inclusive, theory-driven overview of Human Resource Analytics (HR Analytics) was provided by a study. Researcher depict the historical development of HR Analytics from the core principles for data-driven decision creation. The paper begins with a systematic review of the existing evidence supporting the concept of HR Analytics using published literature within numerous academic databases (15). While the systematic review uncovered over sixty articles

related to HR Analytics, only fourteen of the studies were classified as "high quality," or peer-reviewed. This suggests a sizeable disconnect between the demand for data-driven decision-making within HR and the availability of credible, empirical research on this topic. Following a historical overview of HR Analytics as it develops through descriptive HR metrics toward more advanced data-driven analytics to support strategic decision-making, they further highlight how HR Analytics begins with structured processes of collecting, statistical modelling and ultimately interpreting data to clarify the cause-and-effect relationships between human resource activities and organizational results.

Further, investigating the global sustainability reporting trends for the biggest corporations in the world, a study focuses on how much integration of human resource management (HRM) is present in corporate sustainability disclosures (16). Interestingly a study indicated that training and development strategies are fundamentally influenced by HR analytics, particularly for private sector organizations in the context of Lebanon. The authors also state that organizations who do not integrate analytics into their HR practices will struggle to accurately predict their employee development requirements, achieve optimal employee retention and increase their competitiveness (17).

Another research pointed out that Human Resource (HR) analytics is a tool for HR Strategic Workforce Planning that enables HR to match workforce capabilities with organisational strategies. The analysis in their research included how HR analytics support the following HR functions — recruitment, succession planning, performance management, and training and development — by converting raw data into actionable insights about talent, using data to reduce turnover, and forecasting future human capital needs (18). Some researches focused specifically on HR analytics implications within Ghanaian organisations which supports that while organisations that use HR analytics experience significant improvement in the areas of talent acquisition, employee performance, and employee retention, organisations in developing contexts continue to have limited access to HR analytics due to limited skill capabilities and poor data infrastructure; thus, limiting their potential use of this information to make decisions (19, 20).

Although the previous literature establishes that quality training influences overall employee performances, most of the studies focus on large firms. Our study focuses on manufacturing firms in South Bengal of India, where very few studies have been conducted to examine how training effectiveness and training appropriateness impact the performance of employees. Moreover, very few studies examine two dimensions using Structural Equation Modelling (SEM) which leaves a conceptual and methodological gap in assessing the dimension that impacts employee performance in regional manufacturing firms. The present study addresses this gap by analysing the effect of training effectiveness and training appropriateness on employee performance in manufacturing firms of South Bengal.

Hence, the objectives of the study are to assess the training effectiveness and training appropriateness on employee performance in manufacturing firms in South Bengal.

Methodology

Theoretical Foundation

This study is based on several theories which link training effectiveness and training appropriateness to employee performance of a firm, specifically a manufacturing firm. The most important theory is Kirkpatric's Four Level Training Evaluation Model. Other key foundation include ADDIE (Analysis, Design, Development, Implementation and, Evaluation) Model, Human Capital Theory (HCT) and the Resource-Based View (RBV).

The primary theory is the Kirkpatrick theory of training evaluation, wherein employees are evaluated on the basis of four levels: reaction, learning, behavior and results (21). Reaction level measures how trainees perceive the training, if they consider it to be valuable; learning measures how much knowledge the trainees have gained, improved their skills; behavior measures how much trainees are able to apply the skills and knowledge acquired in the workplace; and results measures the benefits derived by the organization through the training such as increase in productivity (22). While training appropriateness is primarily evaluated at level 1 (Reaction) of the model, training effectiveness is evaluated at all the four levels of the model. The model helps to determine whether training appropriateness lead to better application on the job (effectiveness) which in turn reflects in higher employee performance.

ADDIE Model is an internationally recognised good practice that focuses on systematic improvement of employee performance through delivery of quality training. Appropriateness of training is ensured by identifying and analysing organizational needs, addressing specified knowledge, skillset required and attitude gaps of the employees through continuous improvement and a data-driven procedure (23). Training effectiveness is achieved through proper designing of steps to develop instructional materials aligning with the training objectives, delivering the training and evaluating the effectiveness against organisational goals (24).

Human Capital Theory, consider that investing heavily in training and development of employees of a firm enhances individual knowledge, talent, skill-set, and abilities positively leading to improved productivity and performance and organisational profitability, fostering economic growth in the society (25, 26). Many organisations, after offering paid internships to the candidates absorb them in different positions since the firm has already invested to make the candidate fit for the job. Investing in human capital embrace the activities that can improve future income through resources embedded in individuals' skills, which may include spending on education, training, health, and helping and improving labours' efficiency to move to new jobs. (27).

From the point of the Resource-Based View, the competencies and skill-sets gained by employees through training are worthy, rare, inimitable, and irreplaceable resources that help create a sustainable competitive advantage (28). Nevertheless, the mere implementation of training programs does not ensure better performance. To determine

whether such training programs improve employee performance, their effectiveness and suitability should be assessed and justified.

Conceptual Framework

Considering the previous literature and empirical evidence, the present study proposes a conceptual framework where the Effectiveness of the Training Programs and the Appropriateness of Training Programs act as key factors influencing Employee Performance.

Training Effectiveness refers to the quality of training delivery, the proficiency of trainers' delivery, the unambiguity of instructional content of the program, the ability to address employee queries, and the comprehensive engagement level of the participants during training deliveries.

In contrast, Training Appropriateness includes various critical factors including the relevance of the training content to a specific job, the suitability and sustainability of the training methods used, or whether the program is online, offline or experiential.

Figure 1 illustrates the hypothesised relationships among these factors, aggravating their influence on employee performance and providing a foundation for empirical analysis using Structural Equation Modelling (SEM).

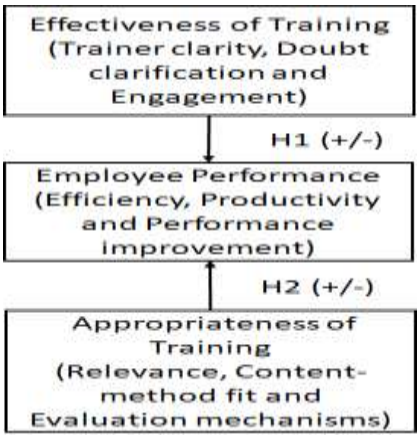

Fig. 1: Conceptual Framework

Hypotheses Development

The effectiveness of training programs plays an important role in shaping learning outcomes and subsequently improving employee performance. Prior literature has established a positive correlation between training effectiveness and employee performance, suggesting enhancements in work efficiency, productivity, and job quality (29, 30). So, the following hypothesis is proposed:

H_{01}: There is no significant impact of Training Effectiveness on Employee Performance

Training appropriateness highlights the alignment between training content and employees' job roles, organizational goals, and performance standards. Empirical evidence shows that employees' needs-based and job-oriented training programs positively impact employee performance and organizational success (31, 32).

Therefore, the study hypothesizes as:

H_{02}: There is no significant impact of Training Appropriateness on Employee Performance

The conceptual framework states that the Effectiveness and Appropriateness of training programs are important determinants of Employee Performance. Figure 1 gives a diagrammatic representation of the two hypotheses. The proposed model will be analysed using Structural Equation Modelling (SEM) to assess the strength and significance of these relationships in the organization.

Data Source

This study used a cross-sectional research design to collect data from the respondents in line with the research studies done previously (33). Manufacturing industries of South Bengal were targeted and their employees were approached. Prior to this, list of employees has been collected from the company databases with the consent of the management. A structured questionnaire was developed for the purpose with the first section seeking information on general characteristics including demographic characteristics, frequency of training programme conducted and attended, followed by the 9 research specific questions or items relevant for the study. These 9 questions were framed in the form of statements and assessed on a five-point Likert scale with values ranging from five to one describing opinions from strongly agree to strongly disagree. The objective of this endeavor was to measure the underlying latent exogenous (training effectiveness and training appropriateness) and endogenous (employee performance) constructs. Before circulating the questionnaire all 9 items were scanned for the presence of any negative worded statements (in which case the items should be rewritten in the form of positive worded statements and accordingly the score should be reversed – "5" for "1", "4" for "2" and so on) and appropriate conversions made. It was assured to the employees that proper confidentiality regarding their identity shall be maintained throughout the study. For choosing a suitable sample size, research by Krejcie and Morgan (34) was consulted who devised criteria for sample size selection. Going by the recommendation of their study 291 questionnaires in total were distributed to employees across the selected manufacturing industries. However, 176 filled in questionnaires were only received back. These filled in questionnaires were scrupulously examined for any discrepancies in the entries. Since the data recorded are in the form of Likert scale, so any entry outside the

range of 1 to 5 were corrected or the responses rejected as considered to be appropriate. In case of missing entries by the respondents of upto 5%, those responses were totally rejected (35). Further, Histograms were plotted along with the QQ plots for items to check for normality, and outliers were identified and done away with. Finally, our dataset of 151 responses collected from the employees of various organizations were considered. To carry on with the analysis SPSS was used for conducting the exploratory factor analysis (EFA) and SPSS-AMOS software was used for the Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM).

Results And Discussion

Exploratory Factor Analysis

For conducting the EFA the present study used the SPSS software. Prior to rotation of items through Principal Axis Factoring (PAF) using Promax rotation, as a prelude a firsthand reliability analysis was performed on all the 9 research items that are constructed in the form of five-point Likert Scale by the study. Cronbach Alpha (α) coefficient was measured to check for internal consistency of the items. The value was found to be above 0.6 which is considered to be sufficient. Next, the KMO & Bartlett tests were performed to check for sampling adequacy and as test of Sphericity respectively as shown in Table 1. The sampling adequacy measure showed a value of 0.603 which is considered enough while the Bartlett's Test of Sphericity was found to be significant, indicating that the correlation matrix of items is not an identity matrix, a condition relevant for carrying on with the factor analysis.

Table 1. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.603**
Bartlett's Test of Sphericity	Approx. Chi-Square	397.653
	df	36
	Sig.	.000

In the next step of extraction of underlying latent factors (constructs) to explain the shared variance among a set of observed variables, promax rotation with Kaiser Normalization has been opted by the researchers as the rotation method. In this method items were examined for high and low factor loadings. In this context 'Total Variance Explained' shows how much variance in the data is explained by each extracted factor after extraction using Principal Axis Factoring (PAF) and how many factors should be retained for meaningful interpretation. Table 2 reports the eigenvalues and variance percentages for the initial and extracted factors. From the table we understand that three factors were retained which together explain 72.350% of the total variance.

Table 2. Total Variance Explained

Factor	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**			**Rotation Sums of Squared Loadings[a]**
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3.060	34.000	34.000	2.660	29.556	29.556	2.130
2	1.790	19.889	53.889	1.990	22.111	51.667	1.650
3	1.660	18.461	72.350	1.870	20.683	72.350	1.600
4	0.640	7.111	79.461				
5	0.520	5.778	85.239				
6	0.460	5.111	90.350				
7	0.390	4.333	94.683				
8	0.340	3.778	98.461				
9	0.140	1.539	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

This indicates that three factors could be extracted using PAF. Only the first three factors have Eigen values greater than 1.

Pattern Matrix

Table 3 shows the factor loadings of the pattern matrix using Promax rotation. The rotation converged in six iterations, indicating a stable and interpretable factor solution. The Pattern Matrix displays the factor loadings which indicates the strength and direction of the relationship between each statement (observed items or variables) and the extracted factors (or in other words the underlying (latent) constructs) which represents the broader traits. The minimum acceptable loading was set at 0.5 by the study and loadings below this were suppressed and hence not shown against those items in the Pattern Matrix table.

Table 3. Pattern Matrix

Particulars	**Factor**		
	1	**2**	**3**

1. I feel the training sessions have helped me to improve my work efficiency.	.524		.528
2. The trainer provided clear and useful information during the training session.	.591		
3. The trainer effectively clarified all doubts related to the topic.	.631		
4. The organization effectively assesses the impact of training through various methods (performance, feedback, etc.).		.715	
5. The training provided by the organization to its employees is appropriate in terms of method and content.		.653	
6. The type of training provided by the organization meets my job requirements.			
7. Training is essential for enhancing productivity and performance.			.615
8. I think that the feedback can evaluate the effectiveness of training program.			.576
9. I enjoyed attending the training program.	.653		

As evident from Table 3, Items 2, 3, 9 loads prominently in Factor 1. Items 4 & 5 load prominently in Factor 2 and items 1, 7, 8 load significantly against Factor 3 (item 1 loads above 0.5 in both Factors 1 & 3 but loads higher in Factor 3 and hence included there). However, item 6 does not have any significant loading in any of these factors and hence eliminated. Once the simple structure was discovered Reliability tests were run separately for these three groups of items included in the three derived factors, and the Cronbach's alpha value for all three groups were found to exceed 0.5.

Factor & Item Labelling

Factor 1 includes the statements or variables: i. The trainer provided clear and useful information during the training session. ii. The trainer effectively clarified all doubts related to the topic. iii. I enjoyed attending the training program. Factor 1 is labelled as F1 (EFFECTIVENESS) and the variables are accordingly labelled as F21 (EFFECTIV1), F31 (EFFECTIV2) & F91 (EFFECTIV3) respectively.

Factor 2 includes the statements or variables: i. The organization effectively assesses the impact of training through various methods (performance, feedback, etc.). ii. The training provided by the organization to its employees is appropriate in terms of method and content. Factor 2 is labelled as F2 (APPROPRIATENESS) and the variables are accordingly labelled as F42 (APPROP1) & F52 (APPROP 2) respectively.

Factor 3 includes the statements or variables: i. I feel the training sessions have helped me to improve my work efficiency. ii. Training is essential for enhancing productivity and performance. iii. I think that the feedback can evaluate the effectiveness of training program. Factor 3 is labelled as F3 (PERFORMANCE) and the variables are accordingly labelled as F13 (PERFORM1), F73 (PERFORM2) & F83 (PERFORM3) respectively.

Confirmatory Factor Analysis

After EFA the Confirmatory Factor Analysis (CFA) model is pursued before going for Structural Equation Modeling (SEM) to ensure that the observed items correctly and reliably measure the intended latent constructs. AMOS has been used by the present study for both CFA and SEM. It is imperative to mention here that while EFA explores potential underlying structures, CFA rigorously tests whether those structures fit the data, laying a solid foundation before testing complex causal relationships in SEM. CFA helps to validate the measurement model (36) and helps to test the hypothesis that there is an association between the observed variables and underlying latent constructs (37). More specifically, the primary hypothesis of Confirmatory Factor Analysis postulates that the observed variables represent the underlying latent constructs as specified in the model. As a pre-requisite CFA requires a pre-defined structure based on theory or prior research.

Researchers hypothesized three latent factors for this study: Effectiveness of the training program, Appropriateness of the training program and Employee Performance, which are labelled in the model as "EFFECTIVENESS", "APPROPRIATENESS" and "PERFORMANCE" respectively. Initially the CFA model was specified with three observed variables measuring the latent construct EFFECTIVENESS, two observed variables measuring APPROPRIATENESS, and three observed variables measuring PERFORMANCE as declared above. However, after running the CFA the model fit indices indicated that the values of Root Mean Square Error of Approximation (RMSEA), Minimum Discrepancy by degrees of freedom (CMIN/DF) and Comparative Fit Index (CFI) did not meet the recommended criteria. Based on this modification indices, two observed variables F91 and F83 (EFFECTIV3 & PERFORM3 respectively) were removed from the model. Finally, the model was re-run and the model fit indices recorded: The Chi square value for the default model was significant, the CMIN/DF ratio was 1.810 indicating a reasonable fit relative to the degrees of freedom. The Goodness of Fit Index (GFI) was 0.977 and AGFI 0.919 suggesting a good fit between the hypothesized model and the observed data. The Comparative Fit Index (CFI) and Normed Fit Index (NFI) were 0.973 and 0.944 respectively, both indicating a strong model fit. Moreover, the Root Mean Square Error of Approximation (RMSEA) was 0.074 and Probability of Close Fit (PCLOSE) value was 0.243 suggesting that the model fits well in terms of error approximation. The Tucker Lewis Index (TLI) value was 0.932. On the whole, these indices support the validity of the three latent factors. The figure of the CFA model is given below.

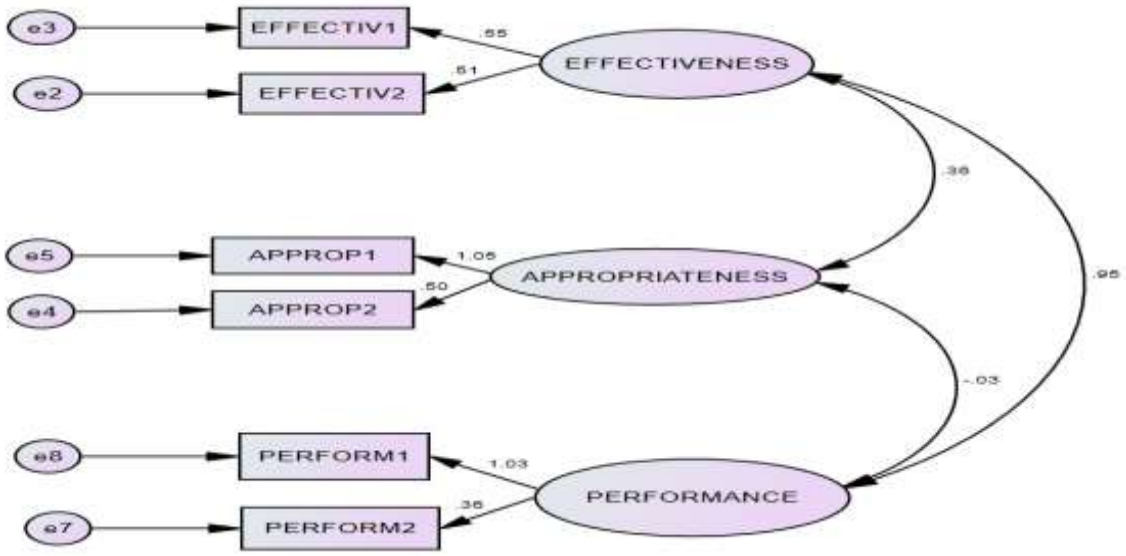

Fig 2. Measurement Model of Confirmatory Factor Analysis

Figure 2 shows the CFA diagram with the covariances between the variables and the latent constructs. Next, from Table 4 we gather that covariance between Training Effectiveness and Employee Performance is significant while that between Training Effectiveness and Training Appropriateness as well as that between Training Appropriateness and Employee Performance are not significant.

Table 4: Covariances: (Group number 1 - Default model)

Particulars			Estimate	S.E.	C.R.	P	Label
EFFECTIVENESS	<-->	APPROPRIATENESS	.032	.018	1.826	.068	
EFFECTIVENESS	<-->	PERFORMANCE	.171	.029	5.862	***	
APPROPRIATENESS	<-->	PERFORMANCE	-.004	.010	-.349	.727	

Structural Equation Modelling

Structural Equation Modelling (SEM) is an analytical technique that enables the specification, estimation, and evaluation of linear relationships among observed variables by representing them through a limited number of unobserved (latent) variables (38). Structural Equation Modelling (SEM) is classified as a second-generation analytical technique, drawing partially on the well-established principles of regression analysis, which represents the first generation of statistical methods (39). After the CFA the SEM model has been pursued to test the two hypotheses regarding impact of Training Effectiveness and Appropriateness on Employee Performance.

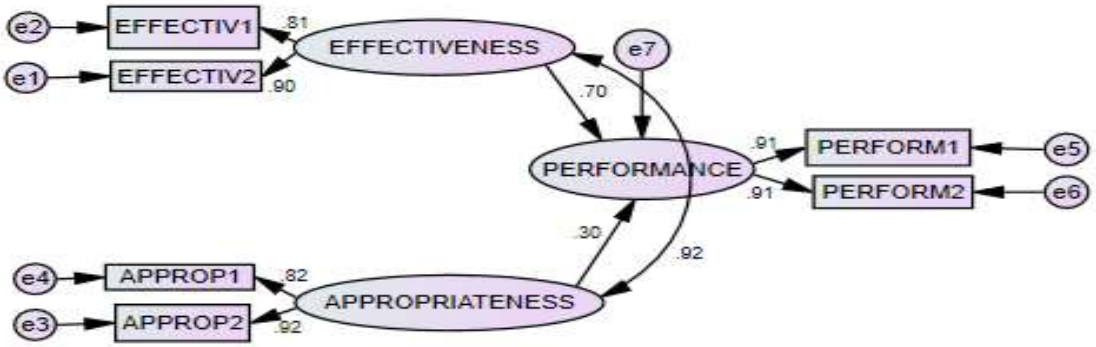

Fig 3: Path Diagram of Structural Equation Modelling

Figure 3 shows the factor loadings of each variable. All the variables which affect EFFECTIVENESS, APPROPRIATENESS and PERFORMANCE are greater than 0.7. Thus, all the factors included in the model for determining the value of latent variables are relevant.

In the case of absolute fitness, the value of normed Chi-Square (CMIN/DF), the goodness of fit (GFI), adjusted goodness of fit (AGFI) and the root mean square error of approximation (RMSEA) are satisfying

the accepted criteria. CMIN/DF value is 1.471 is less than 5, GFI is 0.980 which is greater than 0.9, AGFI is 0.931 which is greater than 0.9, and RMSEA is 0.056 which is less than 0.10. Thus, the model for studying the impact of EFFECTIVENESS and APPROPRIATENESS on PERFORMANCE is an adequately fit.
The value of the Normal Fit index (NFI), Comparative Fit Index (CFI), Tucker Lewis index (TLI), and Incremental Fit Index (IFI) show the incremental fitness of the model. NFI value is 0.989 > 0.9, CFI value is 0.996 > 0.9, TLI value is 0.991 > 0.9, and IFI value is 0.997> 0.9. Thus, the value of all the indices satisfies the criteria required for having the incremental fit model.
Parsimony comparative fit index (PCFI) value is 0.539 is more than the desired value of 0.5 and the Parsimony normed fit Index (PNFI) value is 0.546 which is more than the required value of 0.5. The value of the Parsimony Goodness of fit Index (PGFI) is however less than the desired value i.e. 0.480 < 0.50 but close to 0.5. Hence, the model can be said to be Parsimoniously fit.

Maximum Likelihood Estimates
As mentioned above the research pursues to explore the impact of training effectiveness and training appropriateness on employee performance and accordingly framed two research objectives. Maximum Likelihood estimation technique was applied to estimate the relationship and the results of the estimates are presented in Table 5.

Table 5: Regression Weights: (Group number 1 - Default model)

Particulars			Estimate	S.E.	C.R.	P	
PERFORMANCE	<---	EFFECTIVENESS	.725	.231	3.140	.002	
PERFORMANCE	<---	APPROPRIATENESS	.322	.233	1.385	.166	
EFFECTIV2	<---	EFFECTIVENESS	1.000				
EFFECTIV1	<---	EFFECTIVENESS	.773	.059	13.071	***	
APPROP2	<---	APPROPRIATENESS	1.000				
APPROP1	<---	APPROPRIATENESS	.821	.059	13.945	***	
PERFORM1	<---	PERFORMANCE	1.000				
PERFORM2	<---	PERFORMANCE	.955	.054	17.551	***	

The S.E. figures in Table 5 shows that there is low deviation in the computation of EFFECTIVENESS as well as APPROPRIATENESS. The p-value for EFFECTIVENESS is less than 0.05 implying that the null hypothesis of 'no significant impact of training effectiveness on employee performance' is rejected. However, the p-value for APPROPRIATENESS is greater than 0.05 implying that the null hypothesis of 'no significant impact of training appropriateness on employee performance' could not be rejected, which means that while training effectiveness has a significant positive impact on employee performance, training appropriateness does not have a significant impact on employee performance. Hence, the manufacturing industries of South Bengal should focus on improving the training effectiveness in order to improve the performance of their employees.

Conclusion

This study explores the effect of training appropriateness and training effectiveness on employee performance. It attempts to explain how training effectiveness and appropriateness affect the work of employees. In the dynamic business environment, things are changing at a faster rate, with high competition compelling business firms to change the traditional way of doing business. So business organizations need skilled employees who are competent to perform their jobs well to achieve their goals. That's why employee training and development are crucial for making them competent to perform their jobs well, which leads to the attainment of the company's goal. The success and failure of a company depends on the training and development of employees.
The study discusses that the training is vital for employees to carry out their tasks well. Employees do the work in an organized way when the training is imparted by the trainers who explain things in a systematic way and respond to all the questions. In the study, it is found that training effectiveness significantly improved employee work performance, while training appropriateness was found to be insignificant. An effective training makes employees carry out their jobs efficiently instead of being afraid to try things. Effective training brings a difference in employees; work performance, changing their way/method of doing a job. That is why effective training is important for employees. This study found that merely providing training for the task does not really impact the employees; work performance; the training should be related to work, and employees should know what they need to do. Only sufficient training is not enough to make employees perform jobs better, but it needs to be imparted in a systematic way that really works. The study found that companies spending a lot of money on training that is relevant to the job but employees failed to do better at their jobs, as it does not help them to apply expertise learned from training to perform their work better. Effective training helps employees to learn things so that they can use them in the workplace for the attainment of the company's goal.
The study concludes that proper training practices help employees to do their jobs well. What training is imparted is not as important as how it is imparted. This research paper is useful for business firms to make their training better. The managerial implication of this study is that the managers should prioritize on improving the training effectiveness by involving skilled trainers, ensuring clear learning objectives, using interactive methods and practical application. Managers in the personnel department and human resource managers should make sure that the trainers are good at their work and the training is systematic and interesting. Simply designing training that

appears relevant to job roles (appropriateness) may not automatically translate into improved performance. Managers should focus on post-training reinforcement like mentoring, feedback sessions, on-the-job coaching, and performance monitoring systems. Structured evaluation systems should be used to measure actual training outcomes and budget should be allocated for improving the instructional design, competence of the trainer, digital tools and the experiential learning methods instead of putting effort in aligning content with job descriptions.
Despite its contributions, the study includes some limitations. This study focuses only to manufacturing companies in South Bengal and analyzed cross-sectional data, which confined the generalization of findings. The study conducted only in south Bengal. Future research may take into account other sectors, larger samples, or longitudinal designs to understand
overall insights. At last, the study pointed that well-delivered training, rather than training
alone, is fundamental to improve employee performance and achieve company's success.

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Conflict of Interest
The authors declare that there is no conflict of interest among them associated with conducting the research and in writing the research paper.

Declaration of Generative AI And AI Assisted Technologies in the Writing Process
In writing the research paper no help from Generative AI or AI assisted technologies has been taken.

Author Contributions
Dr. Indrani Sengupta has compiled the data for the study and has applied relevant statistical tools for the analysis. She wrote the Methodology and the Results and Discussion section. Prof. Sayanti Samanta developed the section on conceptual framework and designed the hypotheses, drawing upon the existing theoretical models. Dr. Bijoy Gupta took charge of writing the Background of the study and he, along with Dr. Surjadeep Dutta have been instrumental in identifying the research gaps and objectives of the study. Prof. Niloy Kumar Bhattacherjee finally presented the conclusion part of the study.

Ethical Approval:
The present study was conducted considering the ethical research standard and norms. Informed consent was obtained from all the stakeholders of the research paper. Confidentiality of the responses has been maintained and data collected has solely been used for research purposes.

Data Availability
Dataset can be made available upon reasonable request from some authors who wish to further the research.

Abbreviation
SEM: Structural Equation Modelling; CFA: Confirmatory Factor Analysis; EFA: Exploratory Factor Analysis; T&D: Training and Development; PCFI: Parsimony comparative fit index; PNFI: Parsimony normed fit Index; PGFI: Parsimony Goodness of fit Index; TLI: Tucker Lewis index; IFI: Incremental Fit Index; NFI: Normal Fit index; CFI: Comparative Fit Index; GFI: Goodness of Fit Index; AGFI: Adjusted Goodness of Fit Index; RMSEA: Root Mean Square Error of Approximation; CMIN/DF: Minimum Discrepancy by degrees of freedom; PAF: Principal Axis Factoring; ADDIE: Analyze, Design, Develop, Implement, and Evaluate; HCT: Human Capital Theory; RBV: Resource-Based View; HR Analytics: Human Resource Analytics; HRM: Human Resource Management; IT: Information Technology; LLL: Life Long Learning.

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