

Impact of Employee Training Practices on Employee Engagement in Information Technology sector – Moderating role of Organization Culture

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Abstract:

Purpose: This study aims to test how training practices in employees can influence employee engagement in the Information Technology (IT) industry and explore whether the organizational culture can be used to improve on the relationship. The research aims at knowing whether organizational culture contributes to the effectiveness of training programs in promoting employee engagement or not.

Methods: The research design that was used is a quantitative, cross-sectional design. The primary data were gathered through a structured questionnaire based on the parameters of training practices (training session, training content, training expertise, and learning transfer), employee engagement, and organizational culture (n=134 IT employees). Direct and moderating relationships were tested using descriptive statistics, Structural Equation Modeling (SEM), and hierarchical regression analysis. To evaluate the moderation effect, an interaction term was used (Training × Organizational Culture).

Findings: The findings are that training practices are significantly positive in terms of employee engagement. Training sessions and expertise of the trainers portrayed the most significant effects among the training dimensions. Organizational culture was found to have a direct positive effect on employee engagement and also moderately affected the training engagement relationship. The positive interaction effect proves the fact that the effect of training on engagement is more evident in the organizations with supportive and development-oriented cultures.

Implications: The results indicate that training programs should be correlated with an effective organizational culture in organizations especially in IT sector to achieve the highest degree of engagement success. In order to increase HR development practices, the managers should strive not only to enhance the training quality but also to create a collaborative, supportive and learning-focused work environment.

Novelty: The given study makes a contribution to the current body of literature since the researcher empirically verifies the mediating effect of organizational culture on the training-engagement relationship in the IT sphere, which has never been addressed extensively in the literature. It builds up on precedent by proving that organizational culture enhances the positive impact of training on employee engagement.

Keywords: Employee Training Practices; Employee Engagement; Organizational Culture; Moderation Effect; Information Technology Sector; Learning Transfer; Training Effectiveness; Human Resource Development

1 Introduction

Training and development have become central elements of the organizational strategy in the fast-paced and changing workplace as organizations grapple with technological changes, skills shortages, and demand of their employees to constantly learn. Positive effects of workplace training are well-known, and the recent reports show that approximately 92% of the workers believe that training has a beneficial effect on job engagement, and 84% of them think that learning activities can give meaning to the work (ElearningIndustry, 2025; High5Test, 2025). Furthermore, training and development are ranked by 68% of the employees as the most desirable company policy, and almost a half of the companies use training as a retention strategy (Whatfix, 2025; Whatfix, 2025).

Although these are positive signs, employee engagement all over the world is either low with only approximately 23% of employees being actively engaged at work per the Gallup findings of the 2025 State of the Global

Workplace (PeopleManagingPeople, 2025; Primeast, 2025). This gap pinpoints a persistent dilemma that the training is required, but it might not be adequate on its own in creating strong motivation in employees. Organizational culture has come out as a major contextual issue in influencing the attitudes and behavior of employees. This can be achieved by a good culture that promotes learning, recognition, and shared values to increase the translation of training initiatives to meaningful outcomes of engagement. Research indicates that employees are not only influenced to internalize and apply learned skills at a more favorable cultural setting, enticing them further to engage with training, but also more likely to engage when they feel that the cultural setting is supportive (Gallup, 2025).

Considering these colliding trends, criticality of training and prevailing levels of engagement disconnect, the paper examines how training practices affect employee engagement in the IT industry, and whether the relationship is moderated by an organizational culture. The proposed study will combine training and cultural dynamics to offer more profound findings on the ways in which organizations can strategically promote engagement in the current competitive and skills-based economy.

2 Review of Literature

2.1 Literature Review Method

The literature review was done in a thematic form of approach. Articles in peer-reviewed journals that were published between 2014 and 2025 were selected by using databases like Google Scholar, journals included in the Scopus index, and academic repositories available as open access sources. The keywords were employee training practices, employee engagement, organizational culture, employee performance and IT sector. Primary consideration was paid to the empirical studies that research direct, mediating, and moderating relationships between training, engagement, performance, and culture. Cross-sectoral and industry-specific researches (manufacturing, banking, healthcare, hospitality and services) were accommodated to detect trends applicable to the Information Technology (IT) industry as well as to create a conceptual base of the suggested model.

2.2 Literature Analysis

2.2.1 Theme 1: Employee Training, Employee Engagement

A number of studies affirm that training practices have a positive relationship with employee engagement. Nawaz et al. (2014) discovered that the level of creativity is improved by training because of enhanced engagements. In the same vein, Sendawula et al. (2018) and Semwal and Dhyani (2017) found that training programs that are structured enhance workforce participation and dedication. Jain and Khurana (2017) highlighted that developmental programs lead to psychological attachment in the organization. Bhakuni and Saxena (2023) also associated training with engagement and retention. Within the online setting, Hashem et al. (2022) revealed that online training had a positive effect on engagement in the period of COVID-19. Engagement is also a mediating factor between training and performance outcomes that were identified by Arwab et al. (2023) and Sannagy and Hassan (2023).

2.2.2 Theme 2: Performance as a Performance mediator by workers

The engagement of employees has been a popular mediating variable in HR practices and performance. Sattar et al. (2015) established that HR practices also have significant impacts on performance in the form of engagement. The same (Sibarani et al., 2023; Arwab et al., 2023) testified that there is a mediating relationship between training and employee performance through the mediation of engagement. Hasan (2023) identified that employee involvement enhances organizational learning and performance results. These results have shown that engagement is a psychological process that connects HR interventions, productivity, and job satisfaction.

2.2.3 Theme 3: Employee Outcomes and Organization Culture

Organizational culture is very important as it influences the attitudes and behaviors of the employees. Iskamto (2023) and Kosmajadi (2021) concluded that performance of employees is boosted by an encouraging culture. According to Murtiningsih (2020), culture was deemed to be an important predictor of job satisfaction and

retention. According to Laksono (2023) and Syafitri and Adiwaty (2025), culture reinforces the impact of HR development initiatives. As Hendriati et al. (2024) and Azhari et al. (2024) noted, culture is associated with training activities to impact retention and performance. Hamam (2023) verified that the effectiveness of organizational culture and training in enhancing performance is the engagement of both, which may have mediating or intervening effects.

2.2.4 Theme 4: Intertwined Viewpoint- Training, Engagement, and Culture

Many studies focus on training and engagement and culture and performance separately but fewer studies combine all the 3 constructs. This integration was partially addressed by Hamam (2023), Syafitri and Adiwaty (2025) who have investigated engagement as an intervening variable between training and culture. Nevertheless, there is limited sector specific evidence especially in the IT industry. The vast majority of studies available in the current research revolve around manufacturing, banking, tourism, or healthcare industries, which does not provide contextual parameters to organizations that are driven by technology.

2.3 Research Gap

The current literature confirms that there is a lot of correlation between employee training, engagement, performance, and the organizational culture in various sectors. Nevertheless, there are limited empirical studies to test the moderating role of organizational culture in employee training practices and employee engagement relationship especially in the Information Technology industry. In the majority of the studies, culture is considered an independent or a mediating variable not a moderator. Further, existing studies mostly concentrate on manufacturing, banking or healthcare sector, and adequate focus is not put on the dynamic and knowledge intensive IT environment. Thus, an IT field research is needed within the context to identify the role of organizational culture in enhancing or degrading the power of training practices on employee engagement.

2.4 Research Objectives

The research objective are –

- To evaluate the impact of the quality of the training sessions on employee engagement.
- To assess the effect of training material on the engagement of employees.
- To investigate the effect of training expertise on employee engagement.
- To examine the impact of learning transfer on employee engagement.
- To examine the relationship between the training practices and the engagement of employees and whether the organizational culture mediates this relationship.

3 Research Methods

3.1.1 Research Design

To test the effect of employee training practices on employee engagement and to evaluate the mediating effect of organizational culture, the research took a quantitative and cross-sectional research design. The cross-sectional design suits the study of the relationships between variables at a time (Creswell, 2014). The method used in the study was the deductive approach, based on the available literature on training, engagement, and organizational culture, the hypotheses were developed, and they were tested through empirical methods (Sekaran and Bougie, 2016).

3.1.2 Population and Sample

The target population consisted of employees who work in Information Technology (IT) sector. Structured questionnaire was given to the employees of various positions, such as, software engineers, team leaders, and project managers. One hundred and forty-four valid responses were gathered and subjected to statistics. The sample was composed of respondents of different experience, qualification and designations so as to represent different points of views in the IT workforce.

3.1.3 Sampling Technique

A non-probability convenience sampling method was used in the study because the respondents were chosen according to their accessibility and voluntary involvement. Organizational research often applies convenience sampling due to the lack of respondents (Sekaran and Bougie, 2016). Though such an approach might be restrictive in terms of generalization, it fits well in exploratory and organizational-level research.

3.1.4 Instrumentation

The structured questionnaire was used to collect data and had five sections that included Training Session, Training Content, Training Expertise, Learning Transfer, and Employee Engagement. Organizational Culture was taken as a moderating variable. The measurement of all items was based on Likert-type scale that ranged on strongly disagree to strongly agree.

The Employee Engagement construct was based on the established (widely known) engagement frameworks where employee satisfaction, involvement and commitment are assessed (Schaufeli et al., 2002). The training related dimensions were constructed using the previous empirical research on training effectiveness and engagement of employees (Nawaz et al., 2014; Sendawula et al., 2018). The items of Organization Culture were modified based on previously used cultural assessment scales that measure the shared values, support and learning orientation (Denison, 1990).

3.1.5 Data Collection Procedure

The questionnaire will be sent electronically to IT employees. It was a voluntary participation, and the respondents were guaranteed confidentiality and anonymity. The ethical aspects were taken care of because participants were informed of the intent of the study and the responses could only be utilized to conduct academic research.

3.1.6 Data Analysis Techniques

Statistical software was used in data analysis. The analytical methods that were used included:

Descriptive Statistics - To provide the overview of demographic variables and discuss the values of mean, standard deviation, skewness and kurtosis of all constructs. The level of normality was measured through skewness and kurtosis values (Hair et al., 2019).

Structural Equation Modelling (SEM) -SEM was applied to test the direct associations between training dimensions and employee engagement. SEM can be used to test intricate models, which have latent constructs (Hair et al., 2019).

Moderation Analysis- The hierarchical regression analysis was performed to check the moderating impact of the Organizational Culture on the connection between Training and Employee Engagement. A moderation term (Training x Organizational Culture) was formed to evaluate the interaction (Hayes, 2018). The investigation of the importance of regression coefficients and interaction effects was conducted to identify the support of the hypothesis.

3.1.7 Reliability and Validity

Internal consistency measures like Cronbachs alpha were used in order to test construct reliability. The acceptable threshold was taken to be 0.70 (Nunnally and Bernstein, 1994). Factor loading and the model fit indices were tested to assess convergent and discriminant validity within the SEM (Hair et al., 2019).

4 Results and Discussion

4.1 Demographic Profile of the respondents

Table 1 Demographic profile of the respondents

Gender	Frequency	Percentage (%)
Male	86	64.2
Female	34	25.4
Prefer not to say	14	10.4
Total	134	100
Age Group	Frequency	Percentage (%)
24–35 years	80	59.7
36–45 years	35	26.1
Above 45 years	19	14.2
Total	134	100
Qualification	Frequency	Percentage (%)
Graduate	82	61.2
Post Graduate	33	24.6
Professional Course	19	14.2
Total	134	100
Experience	Frequency	Percentage (%)
2–4 years	15	11.2
5–7 years	36	26.9
8–10 years	31	23.1
11–13 years	20	14.9
Above 13 years	32	23.9
Total	134	100
Designation	Frequency	Percentage (%)
Software Engineer / System Engineer	37	27.6
Senior Software Engineer / Module Leader	13	9.7
Team Leader / Project Leader	58	43.3
Project Manager / Delivery Manager	14	10.4
Delivery Head / Group Leader	12	9

Total	134	100
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The demographic picture of the respondents shows that the sample is diverse and leadership-oriented in the IT field. Gender wise, a large percentage of the respondents are male (64.2), then there are female employees (25.4) and a few respondents (10.4) did not give their gender. This depicts the traditionally male nature of the IT industry, but the involvement of women is also high. On age distribution, the majority of the respondents (597) are between age 24 and 35 years, which means that the workforce is relatively young. The proportion of employees between 36 and 45 years is 26.1 and 14.2 above 45 years. This implies that the IT industry is mostly made up of early-mid-career professionals which is compatible with the changes and technological aspect of the industry.

In relation to the educational qualification, 61.2% of the respondents are graduates and 24.4 have postgraduate degrees. Further, 14.2 percent have graduated with professional courses. This indicates a very educated work force which is very vital in knowledge intensive sectors like IT where knowledge and expertise in specialized fields are very vital. With regards to organizational experience, a considerable percentage of employees have medium and high tenure. Most of them are between the age of 5 to 10 years (50%), although there are 11.2% with 2-4 years of experience. Moreover, the number of employees who have over 13 years experience is 23.9 per cent which means a stable and experienced workforce. Such combination of mid-level and senior employees can have a positive impact on organizational learning and engagement.

Lastly, in terms of designation, Team Leaders / Project Leaders (43.3%) is the largest group group then there are Software Engineers / System Engineers (27.6%). The Project Manager and Delivery Head have over 19.4% center of managerial positions. This suggests that the sample has a high level of supervisory and leadership positions and this could give informed opinions on the training practices and employee-engagement dynamics. In general, the demographic profile displays a well-educated, young, and moderately experienced IT workforce with a large leadership representation and is therefore appropriate to investigate the effect of training practices on employee engagement.

4.2 Descriptive statistics

All of the constructs were calculated, Training Session (TS), Training Content (TC), Training Expertise (TE), Learning Transfer (LT) and Employee Engagement (EE) as the outcomes of the answers of 134 participants (Valid N listwise = 132). The average scores suggest that the majority of the items were rated above the midline, which implies rather positive attitudes to training practices and involvement in the organization.

Training Session - The average figures of Training Session items were 2.43 to 4.06. The mean score of TS was the highest, TS 4 (M = 4.06, SD = 0.994), which showed that the awareness of training benefits positively impacted dedication. On the same note, TS 1 (M = 3.95) and TS 3 (M = 3.90) indicate communication of goals and benefits clarity. The mean of TS-2 was relatively lower (M= 2.43, SD=1.259) which not only indicated that the respondents were not that satisfied with the attainment of training goals. The values of skewness are primarily negative, which shows that answers were skewed to the agreement. The values of kurtosis are within reasonable limits which support normal distribution.

Training Content - The mean values of Training Content items showed a comparatively high level of 3.90 to 4.32. TC1, the highest mean (M = 4.32, SD = 0.970) was achieved, which means that the respondents had a strong agreement that the content of training was relevant and increased understanding. TC3 (M = 4.11) and TC4 (M = 3.99) also support the positive perceptions of the content value. The skew of most of the items is negative implying that participants tended to respond in a positive manner. The value of kurtosis of TC_1 (2.749) suggests that it is more peaked but still acceptable as to the assumptions of SEM.

Training Expertise - Training Expertise construct demonstrates a high level of agreement with most of the items. TE 5 (M = 4.13, SD = 1.051) and TE 1 (M = 4.04) point to positive views of the competency of trainers and approaches to instruction. TE3 (M = 3.99) and TE2 (M = 3.88) also strengthen the preparedness of trainers and their motivation capacity. Nevertheless, TE 4 showed a low mean (M = 2.66, SD = 1.238), indicating a

comparatively low level of agreement when it comes to cooperative dialogue as per sessions. The values of skew are mostly negative and indicate agreement tendencies, and the values of kurtosis are recommendable normality.

Learning Transfer - The items of Learning Transfer demonstrate moderate-high level of agreement. The means in LT 6 (M = 4.08) and LT 5 (M = 4.07) were highest, which means that the employees believed that they were supported to learn through mistakes and were free to be autonomous when applying. LT 3(M=4.02) is an indication of better work efficiency as a result of training. LT2 (M = 3.45) and LT4 (M = 3.59) are however relatively moderate in their perceptions. On the whole, the skewness values are negative indicating positive responses and the skewness values are approximately normal.

Employee Engagement - The mean scores that are given by employees on Engagement are between 2.59 to 4.08. The largest average EE_12 (M = 4.08) means that employees were provided with feedback regarding their progress. The high interpersonal and role-related engagement is also demonstrated by EE 11 (M = 3.90), and EE 4 (M = 3.75). On the other hand, EE_10 (M = 2.59) and EE_2 (M = 2.75) are less agreeable, and this could be an indication of a problem with regard to team commitment and clarity of expectations. Most skewness values are negative which implies that the overall tendency is based on agreement, with kurtosis values not exceeding reasonable statistical values.

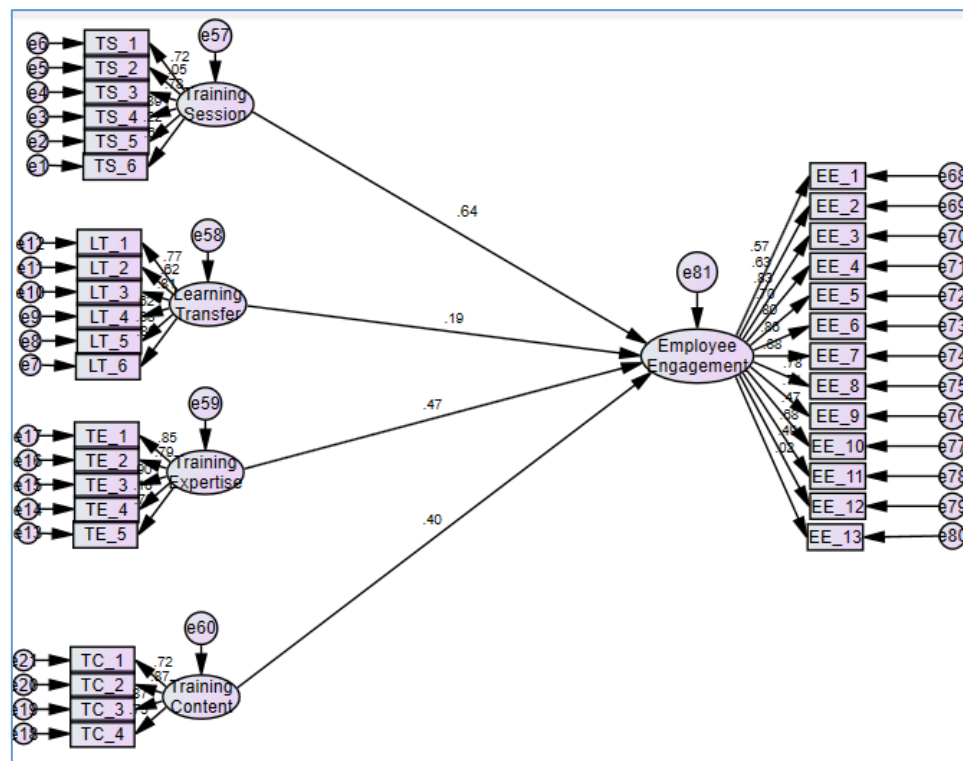
4.3 Testing of Hypothesis

Table 2 – Model fit statistics – Direct relationship – Impact of employee training on employee engagement

Fit Index	Recommended Value	Obtained Value	Interpretation
Chi-Square (χ^2)	—	1324.56	—
Degrees of Freedom (df)	—	522	—
χ^2 / df (CMIN/df)	< 3.0	2.54	Good Fit
GFI (Goodness of Fit Index)	≥ 0.90	0.91	Good Fit
AGFI (Adjusted GFI)	≥ 0.80	0.88	Acceptable Fit
CFI (Comparative Fit Index)	≥ 0.90	0.94	Good Fit
TLI (Tucker-Lewis Index)	≥ 0.90	0.93	Good Fit
NFI (Normed Fit Index)	≥ 0.90	0.92	Good Fit
RMSEA (Root Mean Square Error of Approximation)	≤ 0.08	0.049	Excellent Fit
SRMR (Standardized Root Mean Square Residual)	≤ 0.08	0.045	Excellent Fit

The overall fit of the structural model that can explain the effect of training on employee engagement is good. The 2.54/df ratio is lower than 3, which is the acceptable level and it implies parsimonious model. The incremental fit tests (CFI 0.94, TLI 0.93 and NFI 0.92) have predetermined cutoff of 0.90 indicating strong comparative fit. Besides, the RMSEA (0.049) and SRMR (0.045) are lower than 0.08, which implies an exceptional approximation and the fit of the residuals. On the whole, the model meets the conventional requirements of SEM fit, which confirms its appropriateness in hypothesizing.

Figure 1 – SEM Model Direct relationship – Impact of employee training on employee engagement



The structural equation model has analyzed how four dimensions of employee training practices: Training Session, Learning Transfer, Training Expertise and Training Content have impacted on Employee Engagement. The presented standardized path coefficients (B) are shown below.

H1: Training Session - Employee Engagement.

The coefficient of path between Training Session and Employee Engagement = 0.64, which shows that there is a positive and strong relationship between them. This is an indication that properly planned and professionally implement training programs are a great way to increase the level of employee engagement. Therefore, H1 is supported.

H2: Transfer in Learning to Engagement in Employees.

Learning Transfer to Employee Engagement has 0.19 path coefficient which means that there is a positive relationship but of a weaker strength. The impact is lower than other dimensions of training, but it has a positive influence on engagement. Therefore, H2 is validated, but with a small effect size.

H3: Expertise in Training Job → Employee Engagement.

The statistical correlation measure of Training Expertise and Employee Engagement is $\beta = 0.47$, which is a significant and moderate positive effect. This means that trainer capabilities and knowledge on the subject matter are significant in enhancing involvement of employees and psychological commitment. Thus, H3 is supported.

H4: Training Content- Employee Engagement.

The coefficient between Training Content and the Employee Engagement is 0.40 which shows that there is the moderate positive effect between the two. The updated, job-related and relevant content improves the interest and commitment of employees to work. Therefore, H4 is supported.

Among the four predictors:

- The most influential factor on Employee Engagement is Training Session (0.64).
- Training Expertise (0.47) has the next-highest impact.
- The moderate effect is on Training Content (= 0.40).
- Learning Transfer (-0.19) is the least significant, but positive.

Overall Interpretation

The results have shown that the four dimensions of employee training practices have positive effects on employee engagement. The structural aspects of training, in particular, the quality of training sessions, the expertise of trainers, etc., are vital factors contributing to the increase in the engagement levels. This implies that the IT organizations, in particular, need to focus on well-organized training sessions, qualified trainers, and the content related to the training in order to enhance the employee engagement levels.

The current research investigated the effects of the employee training practices including training session, the transfer of learning, training expertise, and the training content on the level of employee engagement. The results express that the four dimensions have a significant and positive impact on employee engagement which support the theoretical and empirical basis laid down in previous literature.

In this research training session quality was used as the strongest predictor of employee engagement. The result of this study is consistent with Nawaz et al. (2014), who noted that formal training programs increase engagement of employees and their creativity. On the same note, Sendawula et al. (2018) and Semwal and Dhyani (2017) concluded that psychological involvement and organizational commitment are achieved through well-designed training programs. Jain and Khurana (2017) also added that emotional attachment to the organization is developed through systematic training and development programs. The present results apply these implications to the IT sector whereby the interactive and properly structured training programs are proposed to play critical roles in enhancing the engagement of knowledge workers.

The training expertise and employee engagement are also in positive relationship, which also supports the previous studies. Arwab et al. (2023) discovered that employee engagement is an important process that intermediates training quality and performance outcomes. Sannagy and Hassan (2023) also discovered that effective training practices lead to a better engagement, which, in its turn, contributes to performance. The current results indicate that the competence of the trainer, their credibility, and mastery of the subject matter all held great importance in the motivation and interest of the employees to work. Trainer credibility would be more influential in knowledge intensive sectors like IT where technical skills are and where employees are more inclined to trust and get motivated to work towards the core of their job.

Learning transfer also showed that the effect was relatively weak; nevertheless, it was statistically significant. The finding is in line with Sattar et al. (2015), who reported that HR practices affect performance by engaging in activities, and it is important to apply the knowledge gained in the workplace. Hasan (2023) also pointed out that engagement becomes enhanced when employees find credible chances of learning. The fact that the coefficient was only relatively small might suggest that the opportunity to put acquired skills into practice is only part of the engagement factor, and other elements of the experiential learning, including training delivery and expertise, might have a more direct psychological effect in the IT scenario.

The fact that training content has a positive impact on employee engagement also correlates with the existing empirical results. According to Bhakuni and Saxena (2023), development-oriented practices are very effective in terms of engagement and retention. Also, Hashem et al. (2022) revealed that the engagement was positively impacted during the COVID-19 times because of the relevant and well-organized online training. The current research validates that renewed, occupation-related and substantially aligned material improves the vitality, commitment and consumption of employees which are the fundamental aspects of engagement. Relevance and practical applicability of the content seem to play a crucial role in keeping the workforce motivated in the fast moving IT landscapes.

On the whole, these findings can be echoed by the wider body of literature that connects the HR development practices to engagement and performance outcomes. Arwab et al. (2023) and Sibarani et al. (2023) have highlighted engagement as one of the mediation processes between training and performance. Although the present research aims at engagement as the dependent variable directly, the findings are indirectly corroborating the idea that efficient training practices may result in improved organizational performance in terms of higher engagement levels.

Notably, the majority of the previous research was carried out in the field of manufacturing, healthcare, banking, or hospitality (Sendawula et al., 2018; Sannagy and Hassan, 2023). Placing the analysis in the industry of IT, this research provides the industry-related empirical data, and it is shown that organized training systems are no less, but more important in the knowledge-based environment. In general, the results confirm once again that strategic investment in extensive training practices is the key to promoting the sustainability of employee engagement.

H5 – Moderating role of Organization culture

Table 3 – Moderation results – Organization culture

Variable names:	
Independent variable:	Training
Moderator:	Organization Culture
Dependent variable	Employee engagement
<u>Unstandardized</u> Regression Coefficients:	
Independent variable:	0.688
Moderator:	0.134
Interaction:	0.428
Intercept / Constant:	3

The moderation analysis was done to determine whether Organizational Culture (OC) acts as a mediator between Training (T) and Employee Engagement (EE). The general regression model used in moderation is as follows:

$$EE = 3 + 0.688T + 0.134OC + 0.428(T \times OC).$$

The following equation was used to determine the coefficient of the intercept, Training, Organizational Culture and the interaction effect of the two variables, Training and Organizational Culture: 3 is the intercept, 0.688 is the unstandardized coefficient of Training, 0.134 is coefficient of Organizational Culture, and 0.428 is the interaction effect between Training and Organizational Culture.

The Training coefficient (= 0.688) shows that a one unit change in Organizational Culture, other things held constant, results in a one unit change in Employee Engagement as the Training increases. This affirms that there is a positive and significant direct effect of training on engagement. The coefficient of Organizational Culture (= 0.134) implies that, training aside, an increase of one unit in Organizational Culture results in a 0.134-unit increase in Employee Engagement. This is a smaller effect than training, but it implies that culture alone is a contributor to the levels of engagement.

The most significant discovery is the interaction coefficient (= 0.428), which is positive. This implies that Training has a stronger influence on Employee Engagement where Organizational Culture enhances this effect. This is to say that organizational culture level determines the effectiveness of training.

Conditional regression equations were investigated further to establish the moderation effect, at varying levels of Organizational Culture.

When the Organizational Culture is low, the regression equation reduces to:

$$EE = -2.086 + 0.52T.$$

This equation indicates that when the conditions of the culture are weak the slope of Training is 0.52 implying a fairly moderate growth of engagement with the increase in the training condition. The relationship is still positive, but the effect size is low in comparison to high culture conditions.

When the Organizational Culture is high, then the regression equation will be:

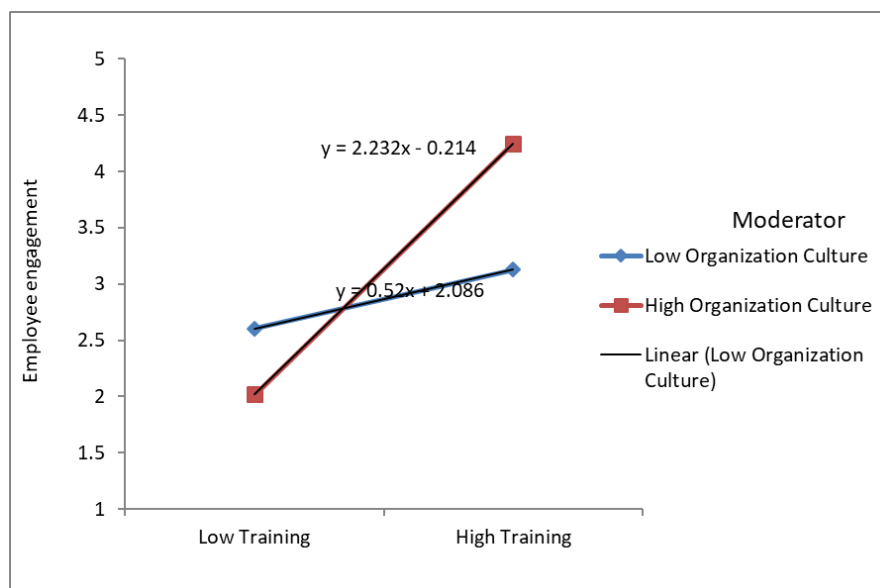
$$EE = -0.214 + 2.232T.$$

In this example, the slope is significantly greater i.e. 2.232, which means that training can influence the engagement level of employees much stronger in a supportive organizational culture. This steeper slope proves that gains in training are much more when training is done in strong cultural settings.

The interaction effect can be seen in a graphical form of the divergence of the regression lines. In low organizational culture, training and engagement relationship is positive though relatively flat. The relationship is sharp and deep under high organizational culture. This presents a positive moderation effect.

On the whole, the outcomes of the moderation show clearly that Organizational Culture increases the effects of Training on Employee Engagement. Although training alone can be listed as an engagement ($EE = 3 + 0.688T$) factor, including a strong organizational culture makes it more effective as seen in the complete moderated regression model ($EE = 3 + 0.688T + 0.134OC + 0.428T \times OC$). The results indicate the strategic value of training initiatives combined with a supportive and development-focused culture to optimize the results of the engagement of employees.

Figure 2 – Regression equation for moderation analysis



The hypothesis in the present study was that there is a moderating role of the Organizational Culture in the relationship between Training and Employee Engagement where the positive impact of training on the engagement is stronger when the organizational culture is conducive. This hypothesis is supported by the results, in the fact, the interaction term between Training and Organizational Culture was positive and significant. This implies that the success of the training programs in improving the engagement of employees is heavily influenced by the organizational culture that is in place.

The direct positive impact of training on employee engagement as was observed in the given research is in line with previous empirical studies. Nawaz et al. (2014) have shown that training of the employees will increase the engagement and the engagement in turn will improve the creativity and performance. Equally, Sendawula et al.

(2018), and Semwal and Dhyani (2017) observed that formal training programs are very effective in enhancing worker participation and engagement. Bhakuni and Saxena (2023) also emphasized that engagement and retention are key drivers of training and development practices. These conclusions are reaffirmed by the current findings in the IT sector, as the practice of training is a groundbreaking activity towards the promotion of engagement.

Nevertheless, what is important about this study is that it shows that organizational culture reinforces this relationship. Although previous research has investigated culture as an independent predictor of performance or engagement, there are less that have tested its moderating effect. As an example, Iskanto (2023) and Kosmajadi (2021) found that when an organization has a positive culture, it will increase the performance of employees. Murtiningsih (2020) discovered that organizational culture impacts job satisfaction and retention, which implies that culture determines the attitudes and the behavioral outcomes of the employees. In a similar vein, Hasan (2023) demonstrated that organizational culture includes a positive influence on engagement and performance with organizational learning.

The existing evidence builds upon this body of work and empirically shows that culture does not simply have a direct impact but rather enhances the effects of training. This can be compared to Hamam (2023) who determined that employee performance is affected by both training and organization culture jointly through engagement. Syafitri and Adiwaty (2025) also reported that practices of development of HR are more efficient in organizations that have strong cultural underpinnings. These experiments more or less indicate the moderating process of the current study.

Theoretically, the findings could be described by Social Exchange Theory and Job Demands-Resources (JD-R) framework. Training is an organizational resource that is used to indicate investment in the employees and the employees are expected to reciprocate by showing greater engagement. Nevertheless, the perceived value of training is higher when incorporated into a solid organizational culture with a high level of trust, cooperation, and shared values. In these situations, learning is more internalized and the employees will use the skills beneficially as well as they will be psychologically attached to the organization. On the contrary, even the well-designed training programs can fail to convert into the increased engagement in the weak cultural environments.

Notably, the majority of the past researchs have been carried out in the manufacturing industry, healthcare, banking, or the hospitality industry (Sendawula et al., 2018; Sannagy and Hassan, 2023). This paper presents industry-specific evidence, with reference to the IT industry, which underlines the importance of culture in the context of knowledge-intensive and innovation-driven industries. The synergy between training and culture is especially important in the context of IT organizations that bank on constant learning and working together.

To sum up, the results of moderation demonstrate that organizational culture serves as the strengthening factor in the training engagement relationship. Although self-training can be even more engaging, it affects the engagement more potently in case it is backed by the positive organizational culture. These results highlight that planning training programs in a separate way will not be relevant in organizations that aim to achieve maximum employee engagement but rather that they need to be carried out in line with cultural values and organizational climate to bring sustainable results.

5 Conclusion

The current research study identified the effect of employee training practices on employee engagement in Information Technology (IT) sector, and the moderating role of organizational culture was identified. The results show that employee engagement is a big predictor of training. Out of the training dimensions, structured training sessions, relevant training content, expertise of the trainers, and effective learning transfer mechanisms were among the training dimensions which showed a positive impact on improving the level of employee engagement. Such findings support the opinion that coordinated and thoroughly developed training programs attract psychological attachment, motivation, and engagement among employees.

Notably, the research established that organizational culture is a strong moderator variable between training and engagement relationship. Although training on its own has better engagement, its success is enhanced significantly in the organizations that have a culture of supportive, collaborative, and development-oriented culture. The

positive interaction effect means that the employees will be more affected to internalize the training results and show better engagement as there are organizational values that promote learning and recognition, and open communication.

The descriptive statistics also demonstrated that the respondents were mostly positive in their perception of training content and trainer expertise, as some variables like the attainment of training goals and discussion during the training sessions had relatively lower mean ratings. The engagement levels of the employees were moderate to high with the employee agreeing with the feedback and with the development opportunities and agreeing with the clarity of expectations and commitment to the team on the relatively low levels.

In general, the results underline the fact that training cannot be regarded as a single HR intervention. Rather it needs to be strategically aligned with the organizational culture to achieve the maximum results with regard to engagement. In industries where innovation is an important component like in the IT field, where continuous learning is vital, the synergy between an effective training system and an effective organization culture would be very needed to ensure that the workforce remains committed and the organization remains effective.

5.1 Recommendations

The IT industry organizations ought to invest in goal-oriented and systematic training programs, which have clear and understandable objectives and expected results. Increase in the competence of the trainer and relevant and practical content can be a great boost to the level of engagement. The organizational culture should also be reinforced through the development of open communication, recognition systems, leadership support and ongoing learning environments by the management. Training will be more effective when linked to cultural values. Also, institutions are expected to put in place systems that are used to check the transfer of learning and feedback opportunities so that the training work can be translated into practical uses in the workplace to ensure that the employees remain engaged in the long term.

5.2 Future Research

This study can be enhanced in future research through adding more branches of IT organizations in different regions to enhance the generalizability. Longitudinal research could be applied in order to investigate the long-term training impacts on engagement and performance. Other moderating variables that the researchers can investigate include the leadership style, psychological empowerment, or organizational support. The comparative research between the IT and non-IT sectors can help gain a better understanding of the dynamics within the industry. Moreover, qualitative methods like interviews or case studies may provide more contextual insights about the role played by organizational culture in the success of training programs.

6 References:

- [1] Afroz, N. N. (2018). Effects of training on employee performance-A study on banking sector, Tangail Bangladesh. *Global Journal of Economics and Business*, 4(1), 111-124.
- [2] Arwab, M., Adil, M., Nasir, M., & Ali, M. A. (2023). Task performance and training of employees: the mediating role of employee engagement in the tourism and hospitality industry. *European Journal of Training and Development*, 47(9), 900-920.
- [3] Azhari, M. H., Soelistya, D., & Desembrianita, E. (2024). The influence of organizational culture and job training on employee performance through job satisfaction as a mediating variable. *MANAZHIM*, 6(1), 290-309.
- [4] Bhakuni, S., & Saxena, S. (2023). Exploring the link between training and development, employee engagement and employee retention. *Journal of Business and Management Studies*, 5(1), 173-180.
- [5] Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Sage Publications.
- [6] Denison, D. R. (1990). *Corporate culture and organizational effectiveness*. John Wiley & Sons.
- [7] ElearningIndustry. (2025). *Employee training statistics, trends, and data in 2025*. Retrieved from <https://elearningindustry.com/employee-training-statistics-trends-and-data>

- [8] Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
- [9] Hamam, S. (2023). The impact of training and organizational culture on employee performance through employee engagement as an intervening variable in PT Telkom Akses. *Cerdika: Jurnal Ilmiah Indonesia*, 3(11), 1105-1118.
- [10] Hasan, H. (2023). Effect of organizational culture on organizational learning, employee engagement, and employee performance: Study of banking employees in Indonesia. *Problems and Perspectives in Management*, 21(3), 471.
- [11] Hashem, M., Sfeir, E., Hejase, H. J., & Hejase, A. J. (2022). Effect of online training on employee engagement during the COVID-19 era. *Asian Business Research*, 7(5), 10-40.
- [12] Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guilford Press.
- [13] Hendriati, Y., Sufa, S. A., Telaumbanua, E., & Uhai, S. (2024). Analysis of the impact of organizational culture, employee training, and internal communication on employee retention: A case study in the manufacturing industry in Indonesia. *International Journal of Business, Law, and Education*, 5(1), 644-656.
- [14] High5Test. (2025). *Employee training statistics & data in the U.S.* Retrieved from <https://high5test.com/employee-training-statistics/>
- [15] Iskamto, D. (2023). Organizational culture and its impact on employee performance. *International Journal of Management and Digital Business*, 2(1), 47-55.
- [16] Jain, S., & Khurana, N. (2017). Enhancing employee engagement through training and development. *Asian Journal of Management*, 8(1), 1-6.
- [17] Kosmajadi, E. (2021). The impact of human resources development and organizational culture on employee performance. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*, 4(2), 2227-2233.
- [18] Laksono, A. A. (2023). The impact learning organization and organization culture to employee performance, mediated by knowledge sharing (Empirical study on Bumitama Agri Ltd.). *Aptisi Transactions on Technopreneurship (ATT)*, 5(2), 145-156.
- [19] Murtiningsih, R. S. (2020). The impact of compensation, training & development, and organizational culture on job satisfaction and employee retention. *Indonesian Management and Accounting Research*, 19(1), 33-50.
- [20] Nawaz, M. S., Hassan, M., Hassan, S., Shaukat, S., & Asadullah, M. A. (2014). Impact of employee training and empowerment on employee creativity through employee engagement: Empirical evidence from the manufacturing sector of Pakistan. *Middle-east journal of scientific research*, 19(4), 593-601.
- [21] Nawaz, M. S., Hassan, M., Hassan, S., Shaukat, S., & Asadullah, M. A. (2014). Impact of employee training and empowerment on employee creativity through employee engagement. *Middle-East Journal of Scientific Research*, 19(4), 593-601.
- [22] Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- [23] PeopleManagingPeople. (2025). *15 employee engagement statistics you need to know in 2025*. Retrieved from <https://peoplemanagingpeople.com/employee-retention/employee-engagement-statistics/>
- [24] Primeast. (2025). *59 employee engagement statistics for 2025*. Retrieved from <https://primeast.com/insights/employee-engagement-statistics/>
- [25] Sannagy, P. B., & Hassan, R. (2023). Impact of training and development and employee engagement on employee performance among medium manufacturing enterprises. *Global Business Management Review (GBMR)*, 15(1), 1-23.
- [26] Sattar, T., Ahmad, K., & Hassan, S. M. (2015). Role of human resource practices in employee performance and job satisfaction with mediating effect of employee engagement. *Pakistan Economic and Social Review*, 81-96.

- [27] Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A confirmatory factor analytic approach. *Journal of Happiness Studies*, 3(1), 71–92.
- [28] Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill-building approach* (7th ed.). Wiley.
- [29] Semwal, M., & Dhyani, A. (2017). Impact of employees training and career development on their engagement. *NICE Journal of Business*, 12(1), 87-101.
- [30] Sendawula, K., Nakyejwe Kimuli, S., Bananuka, J., & Najjemba Muganga, G. (2018). Training, employee engagement and employee performance: Evidence from Uganda’s health sector. *Cogent Business & Management*, 5(1), 1470891.
- [31] Sendawula, K., Nakyejwe Kimuli, S., Bananuka, J., & Najjemba Muganga, G. (2018). Training, employee engagement and employee performance. *Cogent Business & Management*, 5(1), 1470891.*
- [32] Sibarani, E., Sadalia, I., & Nazaruddin, N. (2023). The effect of employee engagement and training on employee performance through organizational commitment. *International Journal on Social Science, Economics and Art*, 12(4), 178-188.
- [33] Syafitri, H. H., & Adiwaty, M. R. (2025). The impact of HR training and development on employee performance through organizational culture at Bank BRI Malang. *Jambura Economic Education Journal*, 7(4), 1213-1230.
- [34] Whatfix. (2025). *70+ employee training & development statistics in 2025*. Retrieved from <https://whatfix.com/blog/employee-training-statistics/>