

The Effectiveness of Training: Exploring the Influence of Learning Technology, Motivation, and Participant Satisfaction

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ABSTRACT

Employee education and development are key elements to achieving competitive advantage in the ever-changing business era. This study investigates the impact of learning technology on various aspects of training, including participant satisfaction, motivation, and overall training effectiveness. Seven hypotheses examine different relationships and mediation effects within this context. Findings reveal that learning technology positively influences training satisfaction, motivation, and effectiveness. Key indicators include social support and personal development, highlighting their significant roles in enhancing these outcomes. Management implications suggest increased investment in learning technologies, continuous evaluation, and adaptive strategies to optimize training results. The study underscores the importance of interactive and engaging technology in improving training programs.

INTRODUCTION

Employee education and development are key elements to achieving competitive advantage in the ever-changing business era. According to Marwansyah (2016), training and development are planned efforts by organizations to facilitate employees in learning job-related behaviors. The aim of this training is to enhance individual self-awareness, skills in specific areas of expertise, and individual motivation in performing job tasks. The importance of training in enhancing human resource excellence is acknowledged by Syamsuri et al. (2018), who emphasize that effective training programs can improve employee capabilities. E-learning, as a model of learning without geographical boundaries, has become an effective solution in facing the development of information technology and the COVID-19 pandemic.

Several studies, such as those conducted by Arafah et al. (2022) and Chow et al. (2022), show that E-learning has a positive impact on training motivation and training effectiveness. Therefore, a leading company in the service industry has adopted the E-learning system to enhance employee competencies. The implementation of E-learning at this company also aligns with its benefits, such as flexibility of time and place, opportunities for self-paced learning, and cost efficiency. However, the company recognizes the need for careful planning to ensure the success of E-learning training.

However, based on data obtained from this company, there has been a decline in the graduation rate of Corporate Culture training from the 2020-2023 period compared to the 2016-2019 period before the pandemic. The graduation rate before the pandemic was 88%, but there was a decrease during the pandemic to 74%.

Table 1. Corporate Culture Training Graduation Data

Before the Pandemic (2016-2019)	PASS	Not PASS	Grand Total	Percentage
Total participant training	800	107	907	88%

During the Pandemic (2020-2023)	PASS	Not PASS	Grand Total	Percentage
Total participant training	529	183	712	74%

Source: Researcher's Data Processing Results (2023)

It can be seen in Table 1 that the effectiveness of Corporate Culture training before the pandemic was higher compared to during the pandemic. This indicates that traditional training methods are more effective, particularly in terms of graduation rates. Similarly, the training satisfaction phenomenon at a leading company in the service industry, which is collected after each training session (level 1 evaluation/reaction), shows a decrease in average scores. Before the pandemic (2016-2019), the average score was 3.53, but during the pandemic (2020-2023), the average score dropped to 3.48.

Tabel 2. Participant Training Satisfaction Data

Before the Pandemic (2016-2019)	2016	2017	2018	2019	Average
Average satisfaction evaluation result	3,37	3,55	3,60	3,61	3,53

During the Pandemic (2020-2023)	2020	2021	2022	2023	Average
Average satisfaction evaluation result	3,47	3,45	3,49	3,53	3,48

Source: Researcher's Data Processing Results (2023)

It is evident in Table 2 that the effectiveness of Corporate Culture training before the pandemic was higher compared to during the pandemic, indicating that traditional training methods were more effective, particularly in terms of graduation rates.

LITERATURE REVIEW

The Influence of Learning Technology on Training Participant Satisfaction

With the satisfaction of training participants towards learning technology, it can be expected that the implementation of learning technologies such as E-learning and Learning Management Systems (LMS) will be more successful. Attention to the aspect of participant satisfaction with learning technology is an integral component of the planning, implementation, and evaluation of technology-based training programs. Participant satisfaction reflects the extent to which the applied learning technology meets their expectations and needs.

Al Natour (2021) explains that his research also highlights that learning technology, especially in the context of blended learning methods with a focus on online video presentations, can influence the learning process, social dynamics, and participant satisfaction. Almusharraf (2020) states that the flexibility of time and place offered by online training allows participants to learn more comfortably and according to their schedules, which also contributes to higher levels of satisfaction.

H₁: There is an influence of Learning Technology on Training Participant Satisfaction

The Influence of Learning Technology on Training Participant Motivation

Training motivation with the use of learning technology, in this case E-learning or Learning Management Systems, is highly influential. This study aims to explore the impact of training motivation on the adoption and utilization of learning technology in the workplace. The main focus is to understand the extent to which the level of employee training motivation can predict the level of acceptance and use of learning technology introduced through training. According to Arafah (2022), the higher the use of E-learning training methods, the higher the employee training motivation. Conversely, the lower the use of E-learning training methods, the lower the employee training motivation. Well-motivated employees tend to be more responsive to changes and innovations in learning technology in the workplace. Almusharraf (2020) states that research

shows there is a positive and significant correlation between synchronous online learning and learning motivation, which in turn increases participants' learning satisfaction.

H₂: There is an influence of Learning Technology on Training Participant Motivation

The Influence of Learning Technology on Training Effectiveness

The effectiveness of training methods is a desired goal for every organization in conducting training. This study investigates the influence of training method effectiveness on the acceptance and utilization of learning technology in the workplace. The main focus is to understand the extent to which the training provided to employees can shape their attitudes and abilities in adopting new technology. In this context, the effectiveness of training methods, particularly through an e-learning approach, is measured to assess its impact on employees' acceptance and use of learning technology.

Research by Noesgaard (2015) states that e-learning methods are often considered as effective as face-to-face methods, with interaction between instructors and participants being an important factor in the effectiveness of e-learning. This is consistent with research by Arafah (2022) which states that e-learning methods are considered as effective as face-to-face methods through good interaction between instructors and training participants. By using e-learning methods, instructors can practice using materials through simulations so that participants can more easily receive training materials, thereby achieving training effectiveness.

H₃: There is an influence of Learning Technology on Training Effectiveness

The Influence of Training Participant Satisfaction on Training Effectiveness

The importance of training participant satisfaction is a key factor in evaluating the effectiveness of training methods, especially when adopting new learning models. Research by Wei (2020) shows that training participant satisfaction can be influenced by their perceptions of online learning, their readiness for online learning, and their performance in such learning environments. Therefore, the effectiveness of training in the context of online learning can be linked to training participant satisfaction through these factors.

H₄: There is an influence of Training Participant Satisfaction on Training Effectiveness

The Influence of Training Participant Motivation on Training Effectiveness

Motivation to participate in training designed by a company or organization is crucial for driving the effectiveness of the training. According to Noesgaard (2015), the higher the training motivation, the higher the training effectiveness of employees. Conversely, the lower the training motivation, the lower the training effectiveness. Training motivation can be a key factor influencing the extent to which employees can utilize and gain maximum benefit from the training methods provided. Well-motivated employees tend to be more engaged in training activities, apply the skills they acquire, and thereby enhance

training effectiveness. This is in line with Arafah (2022), who states that motivation can influence someone to participate in a training program, leading them to make great efforts to follow the program and transfer what they learn to the workplace, where motivation plays a role in determining training performance.

H₅: There is an influence of Training Participant Motivation on Training Effectiveness

The Influence of Learning Technology on Training Effectiveness through Participant Satisfaction as a Mediating Variable

The influence of learning technology on training effectiveness through participant satisfaction as a mediating variable is an increasingly prominent phenomenon in the contexts of education and human resource development. In an era where technology permeates various aspects of life, including education and training, it is crucial to understand how the implementation of learning technology can impact training effectiveness overall. Almusharraf (2020) asserts that learning technology plays a crucial role in enhancing training effectiveness through participant motivation. In the context of online training, particularly synchronous e-learning, learning motivation and satisfaction are key variables that determine the success of such training. Furthermore, Maqbool (2020) states that learning motivation and satisfaction have a strong and significant relationship in online education. Learning motivation can enhance satisfaction by providing an active and creative learning environment, thereby fulfilling students' desires to learn.

Therefore, understanding how learning technology influences participant satisfaction and, consequently, training effectiveness is pivotal in designing and implementing successful training programs in this digital era. By considering the mediating role of participant satisfaction, organizations can maximize the benefits of their investment in learning technology and achieve better outcomes in employee development and organizational goals.

H₆: The influence of Learning Technology on Training Effectiveness is Mediated by Training Participant Satisfaction

The Influence of Learning Technology on Training Effectiveness through Participant Motivation as a Mediating Variable

Effective development of learning technology can create a conducive and supportive learning environment, both virtually and physically. Integration of intuitive e-learning platforms and interactive simulations can establish a safe, comfortable, and distraction-free environment for training participants. Focusing on these aspects of the learning environment not only enhances accessibility to learning materials but also promotes active engagement of participants in the learning process.

Research by Almusharraf (2020) indicates that learning motivation correlates significantly positively with learning satisfaction, which overall contributes to training effectiveness. Furthermore, Maqbool (2020) suggests that learning motivation is strongly related to elements such as tutors and tutorials, learning resources, as well as the learning environment and teaching methods.

This underscores that these factors are primary sources that motivate training participants in distance education.

In conclusion, understanding how learning technology impacts participant motivation and subsequently training effectiveness is crucial for designing effective training programs. By enhancing motivation through conducive learning environments and interactive tools, organizations can optimize the benefits of learning technology in achieving training goals effectively.

H₇: The influence of Learning Technology on Training Effectiveness is Mediated by Training Participant Motivation

Based on the explanation of the relationships between the variables above, the framework can be illustrated as follows:



Figure 1. Framework

METHODOLOGY

The type of research used is descriptive with a quantitative approach. The goal is to reveal facts present in the field and focus on solving current problems. The focus of this study is to test hypotheses regarding the impact of independent variables on the dependent variables previously described. The research strategy applied is associative causal research using questionnaires and survey methods as an integral part of the quantitative approach. The population in this study is employees from a prominent company in the service industry who have participated in online training during the COVID-19 pandemic until now, totaling 228 employees working in the Jakarta area. Thus, the population of this study is 228 employees.

The sample size ideally should represent the population so that the research results can be generalized (Sugiyono, 2010). The sampling technique used in this research is the Slovin Technique with a margin of error set at 5% or 0.05. Therefore, from the existing population, using the Slovin calculation, a sample of 146 employees was obtained. The data collection method used in this study is a questionnaire containing a set of written questions or statements to respondents, which will then be answered or filled out by the respondents.

RESEARCH RESULT

This research was conducted on employees of a company with a total of 146 individuals. The educational background of the employees indicates that the majority, 77 people or 53%, hold a high school diploma or equivalent. Employees with a bachelor's degree (S1) total 53 people or 36%, while those with a Diploma I/II/III total 16 people or 11%. No employees hold a master's degree (S2). In terms of length of service, the majority of employees have been working for 3-4 years, with a total of 45 people or 31%. Employees with more than 6 years of service total 44 people or 30%, while those who have been working for 1-2 years total 28 people or 19%. Employees with 5-6 years of service total 24 people or 16%, and employees with less than 1 year of service total 5 people or 3%.

Validity Testing

a. Convergent Validity

The validity and reliability of the data in this study were evaluated using SEM-PLS 4 software. Factor loading, cross-loading, Average Variance Extracted (AVE), and Cronbach's alpha were employed to assess the data's validity and reliability. The test results are presented as follows:

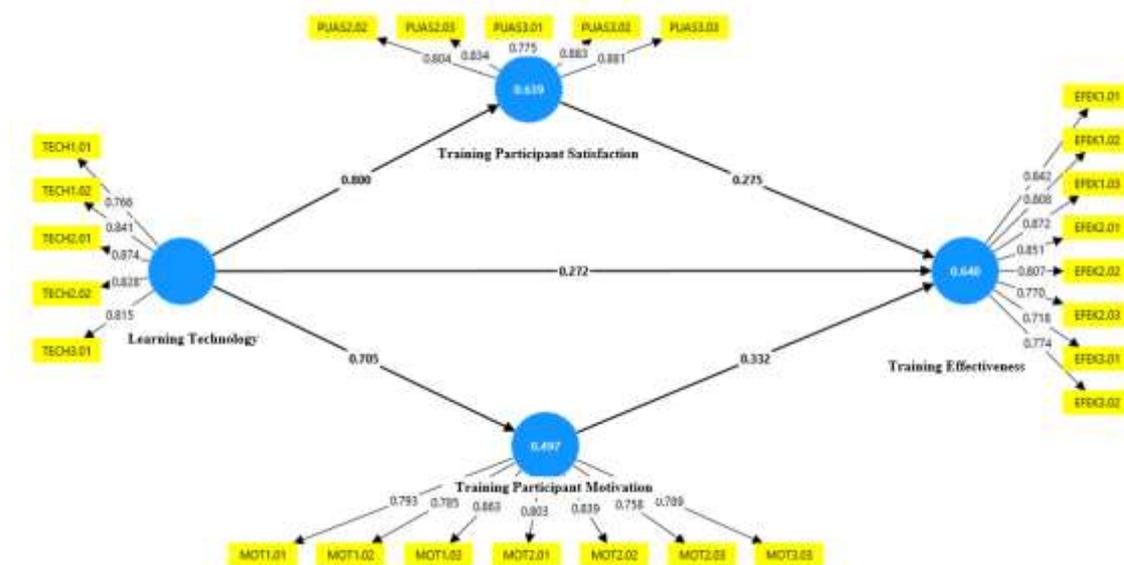


Figure2. Validity and Reliability Testing Model

The results of the validity and reliability testing shown in the figure above indicate that all items from the variables of Learning Technology, Training Participant Satisfaction, Training Participant Motivation, and Training Effectiveness have loading values exceeding 0.70. This signifies that all items validly measure the variables in the study. The factor loading results are also presented in the following table.

Tabel 2. Outer Loadings (Measurement Model Adjusted)

Variabel	Indikator	Loading Factor	Cut off	Ket.
Training Effectiveness	EFEK1.01	0,841	0,700	Valid
Training Effectiveness	EFEK1.02	0,811	0,700	Valid
Training Effectiveness	EFEK1.03	0,860	0,700	Valid
Training Effectiveness	EFEK2.01	0,845	0,700	Valid
Training Effectiveness	EFEK2.02	0,779	0,700	Valid
Training Effectiveness	EFEK2.03	0,752	0,700	Valid
Training Effectiveness	EFEK3.01	0,729	0,700	Valid
Training Effectiveness	EFEK3.02	0,790	0,700	Valid
Training Participant Motivation	MOT1.01	0,789	0,700	Valid
Training Participant Motivation	MOT1.02	0,763	0,700	Valid
Training Participant Motivation	MOT1.03	0,840	0,700	Valid
Training Participant Motivation	MOT2.01	0,774	0,700	Valid
Training Participant Motivation	MOT2.02	0,823	0,700	Valid
Training Participant Motivation	MOT2.03	0,753	0,700	Valid
Training Participant Motivation	MOT3.03	0,825	0,700	Valid
Training Participant Satisfaction	PUAS1.01	0,857	0,700	Valid
Training Participant Satisfaction	PUAS1.02	0,831	0,700	Valid
Training Participant Satisfaction	PUAS1.03	0,82	0,700	Valid
Training Participant Satisfaction	PUAS2.01	0,854	0,700	Valid
Training Participant Satisfaction	PUAS2.02	0,821	0,700	Valid
Training Participant Satisfaction	PUAS2.03	0,815	0,700	Valid

Training Participant Satisfaction	PUAS3.01	0,71	0,700	Valid
Training Participant Satisfaction	PUAS3.02	0,835	0,700	Valid
Training Participant Satisfaction	PUAS3.03	0,826	0,700	Valid
Learning Technology	TECH1.01	0,756	0,700	Valid
Learning Technology	TECH1.02	0,815	0,700	Valid
Learning Technology	TECH2.01	0,847	0,700	Valid
Learning Technology	TECH2.02	0,817	0,700	Valid
Learning Technology	TECH2.03	0,806	0,700	Valid
Learning Technology	TECH3.01	0,807	0,700	Valid
Learning Technology	TECH3.02	0,827	0,700	Valid

Source: Smart PLS 4.0 Processing Results

b. Discriminant Validity

The results of the discriminant validity analysis, based on the cross-loading values between the indicators and their corresponding constructs, are presented below:

Tabel 3. Cross Loading Test Results

Indicator	Training Effectiveness	Training Participant Satisfaction	Training Participant Motivation	Learning Technology
EFEK1.01	0.842	0.622	0.626	0.667
EFEK1.02	0.808	0.644	0.599	0.615
EFEK1.03	0.872	0.622	0.616	0.590
EFEK2.01	0.851	0.573	0.596	0.550
EFEK2.02	0.807	0.543	0.556	0.526
EFEK2.03	0.770	0.575	0.557	0.545
EFEK3.01	0.718	0.560	0.533	0.634
EFEK3.02	0.774	0.599	0.586	0.537
MOT1.01	0.584	0.698	0.793	0.679
MOT1.02	0.602	0.554	0.785	0.557
MOT1.03	0.634	0.656	0.863	0.621
MOT2.01	0.615	0.588	0.803	0.609
MOT2.02	0.537	0.551	0.839	0.487
MOT2.03	0.500	0.542	0.758	0.506
MOT3.03	0.595	0.527	0.789	0.475
PUAS2.02	0.637	0.804	0.571	0.681
PUAS2.03	0.627	0.834	0.687	0.681
PUAS3.01	0.549	0.775	0.605	0.558
PUAS3.02	0.625	0.883	0.584	0.701
PUAS3.03	0.633	0.881	0.633	0.709
TECH1.01	0.554	0.542	0.575	0.766

TECH1.02	0.582	0.683	0.575	0.841
TECH2.01	0.687	0.683	0.570	0.874
TECH2.02	0.620	0.713	0.623	0.828
TECH3.01	0.543	0.667	0.568	0.815

Source: Smart PLS 4.0 Processing Results

The table clearly shows that the constructs have a stronger relationship with their own indicators than with other constructs. All latent constructs demonstrate excellent discriminant validity, as they can predict indicators within their block more accurately than indicators in other blocks. The Fornell-Larcker criterion results show that each variable used in the measurement model has good discriminant validity.

Table 4. Final Fornell-Larcker Test Results

Variable	Training Effectiveness	Training Participant Satisfaction	Training Participant Motivation	Learning Technology
Training Effectiveness	0,807			
Training Participant Satisfaction	0,736	0,837		
Training Participant Motivation	0,725	0,735	0,805	
Learning Technology	0,725	0,800	0,705	0,826

Source: Smart PLS 4.0 Processing Results

The correlation values of each variable are greater than the inter-variable correlations. Based on the Fornell-Larcker test, it can be stated that this measurement model is valid and can be used for further testing. The Fornell-Larcker test was conducted in several stages, and Table 4 shows the final results. HTMT or Heterotrait-monotrait values must be less than 0.9 to ensure discriminant validity between two reflective constructs (Henseler, 2015).

Table 5. Final HTMT Test Results

Variable	Training Effectiveness	Training Participant Satisfaction	Training Participant Motivation	Learning Technology
Training Effectiveness				
Training Participant Satisfaction	0,809			
Training Participant Motivation	0,788	0,813		

Learning Technology	0,800	0,895	0,780	
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Source: Smart PLS 4.0 Processing Results

The HTMT test was conducted in several stages, and the final table shows that all HTMT values are < 0.9 , indicating that all constructs have valid discriminant validity based on HTMT calculations. Thus, the measurement model used is valid and can be used for further testing. With the cross-loading, Fornell-Larcker, and HTMT test results showing good values for each variable, this study meets the discriminant validity requirement.

Reliability Testing

Ghozali and Latan (2015) state that composite reliability testing aims to evaluate the reliability of instruments in a research model. If all latent variable values have a composite reliability > 0.7 and Cronbach's alpha > 0.6 , it indicates that the construct has good reliability, meaning the questionnaire used is reliable and consistent. The summary of the composite reliability and Cronbach's alpha calculations is presented in the following table:

Table 5. Construct Variable Reliability Test Results

Variable	Cronbach's Alpha	Composite Reliability
Training Effectiveness	0,923	0,924
Training Participant Satisfaction	0,892	0,896
Training Participant Motivation	0,909	0,912
Learning Technology	0,883	0,886

Source: Smart PLS 4.0 Processing Results

From the table, it is evident that all variables have Cronbach's alpha values above 0.6 and composite reliability values above 0.7. Therefore, based on these calculations, all dimensions are considered reliable in measuring their respective variables.

Structural Model Testing (Inner Model)

This model outlines the relationships between latent variables or inner relations. In this evaluation phase, methods are provided to assess the structural model using PLS, beginning with the examination of R-squared values, predictive relevance Q2 values, Goodness of Fit Index (GoF), and then evaluating the significance of the relationships between constructs as indicated by the path coefficient.

a. Coefficient of Determination / R Square Test

The R-square indicates the predictive power of each endogenous latent variable in the structural model. Changes in R-square values can show whether an exogenous latent variable has a significant impact on an endogenous latent variable. According to Ghozali (2021), R-square values of 0.67, 0.33, and 0.19 indicate strong, moderate, and weak models, respectively. The values are presented in the table below:

Table 6. R-square Values

Variable	R-Square	R-Square Adjusted
Training Effectiveness	0,640	0,632
Training Participant Satisfaction	0,639	0,637
Training Participant Motivation	0,497	0,494

Source: Smart PLS 4.0 Processing Results

From the table above, the R-square value for Training Effectiveness is 0.640, indicating that 64% of the variability in training effectiveness is explained by the independent variables in the model. The Adjusted R-Square of 0.632 provides a more accurate picture, accounting for the number of variables in the model, and still indicates a strong model. The R-Square of 0.639 shows that 63.9% of the variability in Training Participant Satisfaction is explained by the model, with an Adjusted R-Square of 0.637, very close to the R-Square, indicating minimal adjustment impact and a robust model.

For Training Participant Motivation, the R-Square is 0.497, explaining 49.7% of the variability. The Adjusted R-Square of 0.494 is slightly lower but still close to 50%, suggesting a moderate explanatory power of the model.

b. Predictive Relevance Q2 Value

Q2 evaluates the adequacy of a model in producing observed values and estimating its parameters. A Q2 value greater than 0 indicates a satisfactory model, while a value less than 0 signifies insufficient predictive relevance of the model. Here are the results of the Predictive Relevance test (Q2)

Table 7. Result Q² Value

Variabel	Q ² predict
Training Effectiveness	0.558
Training Participant Satisfaction	0.805
Training Participant Motivation	0.541

Source: Smart PLS 4.0 Processing Results

The results show that the Predictive Relevance (Q2) values are all greater than 0, indicating that the models are considered sufficiently good.

Goodness of Fit Index (GoF) Value

In this study, SRMR (Standardized Root Mean Square Residual) was used to measure average covariance residuals. It assesses the fit of the model by comparing observed and expected correlations.

Table 8. Result SRMR Value

Criteria	Saturated Model	Estimated Model	Cut Off Value	Outcome
SRMR	0,06	0,074	≤ 0,10	Sufficiently Good

Source: Smart PLS 4.0 Processing Results

According to Henseler et al. (2014) values below 0.10 are considered suitable. Goodness of Fit (GoF) testing showed results ≤ 0.10, indicating adequate model fit.

Research Hypothesis Testing

Hypothesis testing uses SmartPLS software for conducting the tests. The evaluations performed are inner model evaluation and t-test to answer the seven hypotheses. The hypothesis test results are as follows:

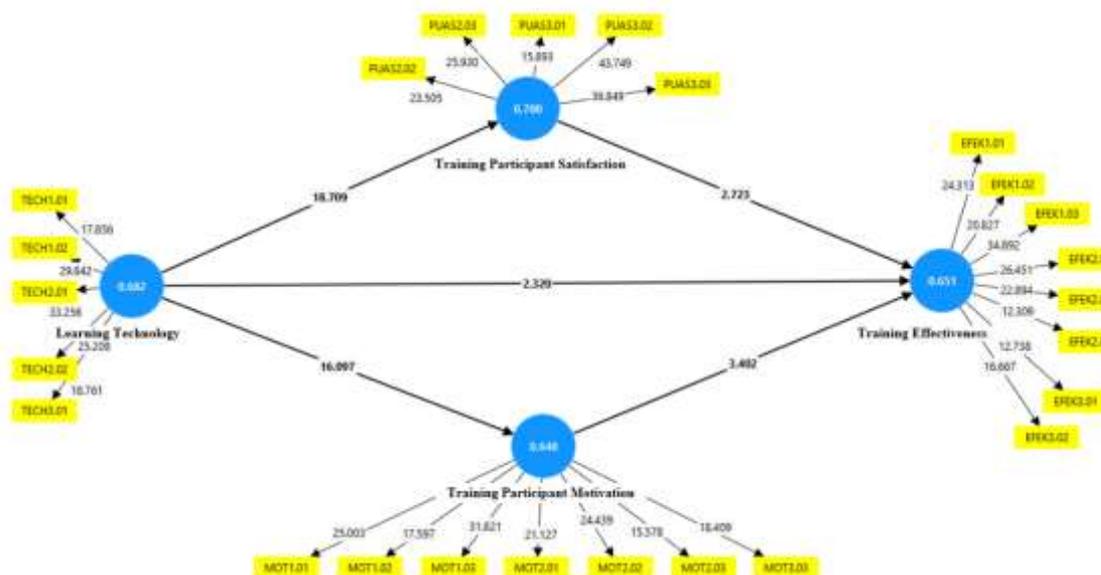


Figure3. Hypothesis Testing Model

Table 6. Construct Reliability Test Results

Variabel	R-Square	R-Square Adjusted
Training Effectiveness	0,640	0,632
Training Participant Satisfaction	0,639	0,637
Training Participant Motivation	0,497	0,494

Source: Smart PLS 4.0 Processing Results

The R-square value for Training Effectiveness is 0.640, indicating that 64% of the variability in training effectiveness can be explained by the independent variables in the model. The Adjusted R-Square value of 0.632 shows an adjustment for the number of variables in the model, providing a more accurate depiction of the model's explanatory power. These values are high and suggest a good model.

Direct Influence Hypothesis Testing

Table 7. T-Statistics (Bootstrapping) Results

Hypothesis	Original Sample (O)	T Statistics (O/STDEV)	P Values
Learning Technology -> Training Participant Satisfaction	0.275	2.723	0.006
Learning Technology -> Training Participant Motivation	0.332	3.402	0.001
Learning Technology -> Training Effectiveness	0.272	2.320	0.020
Training Participant Satisfaction -> Training Effectiveness	0.800	18.709	0.000
Training Participant Motivation -> Training Effectiveness	0.705	16.097	0.000

Source: Smart PLS 4.0 Processing Results

Based on the direct influence analysis from Table 7, it can be seen that:

1. Learning Technology has a positive and significant impact on training participant satisfaction. A P value less than 0.05 (i.e., 0.006) indicates statistical significance. The T Statistics value of 2.723 also supports this significance, with an Original Sample value of 0.275 showing a positive impact.
2. Learning Technology has a positive and highly significant impact on training participant motivation. A P value of 0.001 indicates strong significance. The high T Statistics value of 3.402 shows a strong impact, with an Original Sample value of 0.332 indicating a substantial positive influence.
3. Learning Technology has a positive and significant impact on training effectiveness. A P value of 0.020 indicates statistical significance. The T Statistics value of 2.320 supports this, with an Original Sample value of 0.272 showing a positive impact.
4. Training Participant Satisfaction has a very strong and highly significant impact on training effectiveness. The very small P value (0.000) indicates very strong significance. The very high T Statistics value of 18.709 supports this conclusion, with an Original Sample value of 0.800 showing a very large positive impact.
5. Training Participant Motivation has a very strong and highly significant impact on training effectiveness. The very small P value (0.000) indicates very strong significance. The high T Statistics value of 16.097 supports this conclusion, with an Original Sample value of 0.705 showing a large positive impact.

Indirect Influence Hypothesis Testing

Table 8. T-Statistics (Bootstrapping) Specific Indirect Effect Results

Hypothesis	Original Sample (O)	T Statistics (O/STDEV)	P Values
Learning Technology -> Training Effectiveness via Training Participant Satisfaction	0,234	3,287	0,001
Learning Technology -> Training Effectiveness via Training Participant Motivation	0,220	2,590	0,010

Source: Smart PLS 4.0 Processing Results

Based on the indirect influence analysis from Table 8, it can be seen that:

1. Learning Technology has a significant indirect effect on training effectiveness through training participant satisfaction. The Original Sample value of 0.234 shows that the impact of learning technology on training effectiveness is mediated by training participant satisfaction. The T-Statistics value of 3.287 indicates statistical significance, and the P value of 0.001, much smaller than 0.05, indicates high significance. This suggests that training participant satisfaction plays a crucial role as a mediator in the relationship between learning technology and training effectiveness.
2. Learning Technology also has a significant indirect effect on training effectiveness through training participant motivation. The Original Sample value of 0.220 indicates that the impact of learning technology on training effectiveness is mediated by training participant motivation. The T-Statistics value of 2.590 indicates statistical significance, and the P value of 0.010, smaller than 0.05, indicates significance. This suggests that training participant motivation also plays an important role as a mediator in the relationship between learning technology and training effectiveness.

DISCUSSION

The findings demonstrate that learning technology positively influences training satisfaction, motivation, and overall effectiveness. Key indicators such as social support and personal development play significant roles in enhancing these outcomes. The positive relationship between learning technology and participant satisfaction suggests that the more advanced and interactive the technology, the higher the satisfaction levels among participants. Furthermore, the direct impact of learning technology on motivation and training effectiveness highlights the importance of incorporating innovative technological tools in training programs. Organizations are encouraged to continuously invest in and evaluate their learning technologies to adapt to the dynamic needs of the workforce and maximize training outcomes.

CONCLUSIONS AND RECOMMENDATIONS

This study clearly demonstrates the significant positive impact of learning technology on training outcomes, including participant satisfaction, motivation, and overall training effectiveness. The advantages of integrating technology into training programs are evident in the enhanced engagement and improved learning experiences reported by participants. The results support the notion that effective use of learning technology can substantially elevate the quality and impact of training initiatives.

Based on data analyzed using the SEM PLS method, the conclusions are as follows:

1. Learning Technology and Participant Satisfaction: Learning technology has a positive and significant effect on participant satisfaction. The better the learning technology, the higher the participant satisfaction.
2. Learning Technology and Participant Motivation: Learning technology also has a positive and significant effect on participant motivation. Good learning technology increases participants' motivation in learning and achieving personal and professional goals.
3. Learning Technology and Training Effectiveness: Learning technology positively and significantly affects training effectiveness. Good technology usage increases training effectiveness.
4. Participant Satisfaction and Training Effectiveness: Participant satisfaction positively and significantly affects training effectiveness. Higher satisfaction increases training effectiveness.
5. Participant Motivation and Training Effectiveness: Participant motivation also positively and significantly affects training effectiveness. Higher motivation increases training effectiveness.
6. Partial Mediation: Since the direct effect of learning technology on training effectiveness is significant, and the indirect effect through participant satisfaction and motivation is also significant, the variables of satisfaction and motivation partially mediate this relationship.

ADVANCED RESEARCH

However, the study also identifies certain limitations. The findings are context-specific and may not be universally applicable across different training environments or industries. Additionally, the reliance on self-reported data from participants could introduce biases that may affect the accuracy of the results. Despite these limitations, the implications for training management are profound. Organizations are encouraged to invest in advanced learning technologies, provide comprehensive training for instructors, and continuously evaluate and adapt their training strategies based on participant feedback. These actions can ensure that technology-enhanced training remains relevant, effective, and aligned with participants' needs and expectations. Future research should explore the long-term effects of learning technology on training outcomes and examine its applicability in diverse contexts. By doing so, we can further understand the potential of learning technologies and continue to improve training programs for greater organizational success.

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