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Learning Beyond Training: An Empirical Study of Development Application in the Workplace

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Abstract

This study is mainly focused on identifying the effectiveness of learning beyond training in terms of enhancing workplace productivity in today's constantly evolving market. The thematic core of formal and informal learning within an organisation has been considered as the main motivation for this study. A primary quantitative approach has been adopted where 101 participants from different organisational contexts have been surveyed. Through statistical analysis, this study outlined that there is a significant role played by a training program which allows employees to apply the learned aspects within the organisational context. Organisational resources are also identified to play a vital role in developing applications from learning in the workplace. However, the lack of qualitative information from the employees can be considered a downside of this study. However, this can also be considered as a future scope to further strengthen the final outcome of this research. The findings of the study have shown that the quality of training design and organisational support significantly influence the transfer of learning to workplace performance. The findings of regression analysis have shown that training methods ($\beta = 0.594$) and resource availability ($\beta = 0.522$) are the strongest predictors for the development of applications. Research has shown that peer support and employee motivation play an important role in enhancing the transfer of learning. The study has contributed to both practice and theory by emphasising that learning transfer is multidimensional and there is a need for alignment between organisational culture, employee engagement and training. There were limitations shown in the study, as it uses convenience sampling, and there is a lack of qualitative insights. The future research needs to make use of mixed methodology to provide deeper insights into the learning transfer.

Keywords: Development Application, Employee Motivation, Organisational Support, Learning and Development Activities, Supervisor and Peer Support.

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Introduction

Overview of the Study

Training is an essential step for enhancing the efficiency of work and continuing to develop skills (Parween, 2024). The research investigates the role of employees in applying learning programs beyond the boundaries of formal development programs in the dynamic and performance-based work environments. Learning in the modern workplace spans formal programmes, informal experiences, and on-the-job development, all of which shape employee capability and performance (Noe et al., 2014). The research investigates the utilisation of the learning opportunities by the employees, applying in work and maintaining a consistency of improvement in the rapidly changing market landscape. The learning intervention and mentorship in the workplace not only help the employees to upskill and adopt new techniques, but also help to enhance the empirical outcomes of the organisation. Therefore, the formal and informal learning experience for employees is an essential part of the leadership and management approach (Rintala et al., 2019). However, besides the opportunities and strengths of the training for applicable learnings in the workplace, identifying the previous issues helps to evaluate and establish the deliverables more competitively. Development and training are quintessential parameters that help in improving organisational competitiveness and employee performance. However, it is suggested by the authors that only conducting training programs is not sufficient unless the employees effectively apply their acquired knowledge in their working environment. One of the major implications of the study lies in paying attention to the factor of learning beyond training, and this is stated as applying the knowledge attained from both formal and informal learning.

Aim

The research aims to develop an extensive training program to evaluate its effectiveness for employees, which develops skills beyond the formal training.

Objectives and Research Questions

- To determine the important individual, social and organisational factors that impact the sustainable transformation in the workforce.
- In order to study the effects of employee participation and involvement in the formal and informal learning programs within the work environment.
- To discover how employees engage themselves in relation to the training program.

The following are the research questions that are required to be measured in the following research study:

- What are the parameters that influence the learning applications within the workplace?
- How do the training design and organisation support affect the development of applications?
- What are the factors that play a role in motivating employees in learning transfer?

Research Rationale

Organisations spend a particular amount on training and development of the skills of employees to consistently cope with the market dynamics and stay competitive. The current research identifies the training effectiveness without considering the role of overall development experiences in affecting the performance. The science of training confirms that programme design, learner readiness, and organisational context together determine whether training produces measurable performance outcomes (Salas et al., 2012). Several literature reviews on the core aspects help in elaborating the effectiveness of the relationship between employee training and organisational outcomes.

Structure of the Study

The research study is structured in the following way: Section 1 (Introduction) gives the aims, objectives and overview of the study. Section 2 (Literature Review) dwells on current and previous studies, and ends up with an inference and theoretical framework. Theoretical Framework (Section 3) introduces the Adaptive Learning Theory that the study will be based on. Section 4 (Methodology) gives the research design, data collection and analysis procedures. Section 5 (Results), provides the statistical results of correlation and regression analysis. The interpretation of the key findings and implications is provided under Section 6 (Discussion). Section 7 (Conclusion) summarises the research and proposes future research directions.

Literature Review

In Industry 4.0, sustainable development is essential to stay competitive in the trade-off between economic, social and environmental performance (Mukhuty et al., 2022). Learning transfer has been widely studied as a multidimensional construct influenced by motivation, environment, and training design (Blume et al., 2010; Reinhold et al., 2018). Organisational support, including managerial encouragement and availability of resources, has been specifically identified as a direct enabler of successful learning transfer in workplace settings (Futris et al., 2015).

Informal learning experiences are mostly observed training types in workplaces (Kittel & Seufert, 2023). Although it is difficult to adapt for some employees, it is necessary to acquire knowledge to cope effectively with the changing nature of the industry. Non-formal and formal learning are pivotal for structured learning in the practical training programs (Parween, 2024). The informal studies meet the micro segments that formal learning cannot reach. However, both types combine to provide appropriate professional settings such as community organisation, workplace and voluntary sector activities. The integration of artificial intelligence is changing the formation of the education system in both theoretical and practical knowledge (Cunningham & Hillier, 2013). The study records 72 reviews with respect to identifying the eligibility of the systematic reviews in the PRISMA guidelines that provided in-depth and multi-dimensional information about this topic. In this order, the study is crucial to identify the advanced technology integrated training and its effectiveness in the workplace.

The training sessions not only provide upskilling for the stakeholders, but also reduce the management stress and conflicts in the workplace (Almasri, 2024). Training engagement — defined as the degree of active cognitive and behavioural involvement during a learning programme — has been shown to be a key mechanism through which programme design influences subsequent application of skills (Sitzmann & Weinhardt, 2018). The study reviewed that 66% of employee engagement can be seen to be enhanced through the organisational training sessions. Rožman et al. examined five constructive factors of contemporary organisations, including AI-supported leadership, employee training, team performance, and engagement through the lens of artificial intelligence (Rožman et al., 2023). The study also shed light on the important aspects, such as the linear (PLS-SEM) and the non-linear (CB-SEM) relationships in the organisational construct culture.

Inference from Literature Review

The earlier studies have emphasised the significance of informal, formal and nonformal learning in an organisational context. The studies have shown that leadership, employee motivation and organisational support help in impacting the overall learning transfer. Workplace engagement, productivity, and job satisfaction are all significantly influenced by employee training. The inference that can be suggested from the literature review is that learning transfer mainly depends on multiple factors that are interconnected with each other. Meta-analytic evidence confirms that these factors do not operate independently — their combined influence on transfer is substantially stronger than any single factor acting alone, which underscores the need for integrated approaches to learning design (Blume et al., 2010). But it is observed that the research study is limited in the sense that these parameters are all having an effect on the application of development and the key objective of the research study is to answer this very point.

Theoretical Framework

Adaptive Learning Theory

According to the Adaptive Learning Theory, effective development is possible due to the adaptability of the learning systems to certain needs, performance and situation. Its theory centres on the principles of constructivist learning, the design of instructions based on feedback that states learning by adjusting the contents, the pace and the complexity to the capabilities of the learner gives the best learning (Essa et al., 2023).

Conceptual Framework

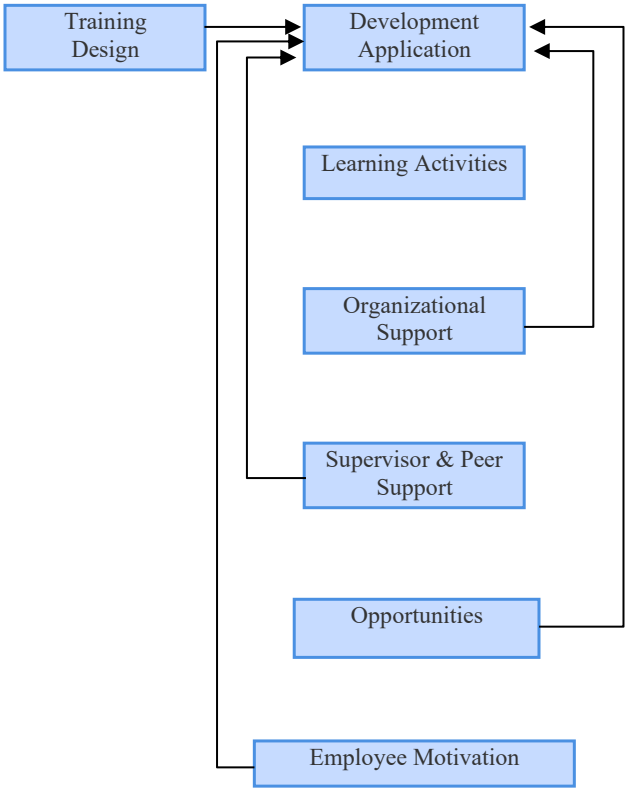


Fig. 1: Conceptual Framework of the Study

(Source: Created by the Author)

A conceptual model is presented in fig. 1 to show how the independent variables relate to the dependent variables. The framework for the study assumes that the independent variables have a positive effect on learning at the workplace.

Table 1: Independent and Dependent Variables

Independent variables	Dependent variables
Learning activities, training design, organisational support, peer and supervisor support, opportunities and employee motivation	Development application

Table 1 shows the independent and dependent variables that are used in the investigation. The independent variables considered include learning activities, design of the training, organizational support, peer support, supervisor support, opportunities, and motivation of employees. Development Application is shown to be the dependent variable, as it represents the outcome of interest.

Methodology

Research Method and Strategy

The research method applied in the current study was a primary quantitative research approach, whereby the research design was utilized to determine the interdependency of the training program and its implementation in the organizational setting. Data for the research were obtained using a survey questionnaire from staff members of certain organizations. The research was anchored on positivism, which holds that organizational experiences are measurable and analysable (Maretha, 2023). ***A deductive approach*** was employed, in which hypotheses modelled after existing theory on learning transfer and employee engagement were formulated and tested against empirical data. Additionally, the study adopted ***a quantitative and descriptive research design***, through which patterns, relationships, and trends in training participation, engagement, and workplace performance outcomes were systematically described and analysed (Villamin et al., 2025; Reinhold et al., 2018).

Data Collection and Data Analysis

The research involves the use of primary quantitative data that has been gathered using a structured survey questionnaire on 101 respondents who were employed in different organisational contexts. The research was conducted among the employees working in different organisations in India, and this data represents different job roles and diverse industries. The questionnaire contained closed-ended questions, on a five-point Likert scale to assess the perception of training effectiveness, transfer of learning, employee engagement, and performance at the workplace (Ghanad, 2023). Closed-ended survey instruments of this kind enable consistent measurement across respondents and allow reliable statistical comparison, provided the response categories are clearly defined and uniformly understood (Hansen & Świderska, 2024). The technique applied in order to select the participants involved a ***non-probability convenience sampling technique*** that would guarantee accessibility and prompt data collection. This non-probability technique was used as there were time constraints and issues of accessibility. The analysis of data is performed with the help of ***SPSS***. Responses were summarised by using descriptive statistics like mean and standard deviation, and inferential statistical methods like correlation and regression analysis were used to investigate the relationship among variables (Bhakuni & Saxena, 2023; Oluwagbemiga et al., 2014). This method of analysis provides a good degree of statistical reliability, validity, and objective explanation of empirical results. Careful interpretation of statistical outputs, including awareness of common misperceptions in regression and correlation analysis, is essential to ensure the credibility of quantitative findings (Adeniran et al., 2024).

Table 2: Cronbach Alpha

Cronbach's Alpha	N of Items
.967	17

(Source: IBM SPSS)

The reliability analysis has a Cronbach's Alpha coefficient of 0.967, and this has 17 items, thus showing good internal consistency is demonstrated in table 2. The fact that the value is greater than 0.9 indicates that the research tool is both very reliable and that the questions all measure the same construct. Thus, the scale is found to be statistically reliable.

Demographic Profile of Respondents

Table 3: Demographic Profile of Respondents

Category	Frequency (n)	Percentage (%)
Male	48	47.5%
Female	53	52.5%
Other / Prefer not to say	0	0.0%
Total	101	100%
Work Experience	**Frequency (n)**	**Percentage (%)**
Less than 1 year	12	11.9%
1–5 years	46	45.5%
6–10 years	28	27.7%
More than 10 years	15	14.9%
Total	101	100%
Job Level	**Frequency (n)**	**Percentage (%)**
Entry level	34	33.7%
Mid-level	38	37.6%
Senior level	19	18.8%
Managerial / Leadership	10	9.9%
Total	101	100%

The demographic characteristics of the respondents are presented using frequency and percentage distributions, as the variables are categorical in nature, and are shown in table 3. The sample consists of a balanced representation of gender, work experience, and job levels, ensuring diversity and enhancing the generalizability of the findings.

Ethical Considerations

All the 101 participants were informed about the purpose of the study before the data was gathered, that it was voluntary in nature, and that the participants had the right to withdraw at any time without consequences. There was a high observance of anonymity and confidentiality of participants in the research, and no identifiable information was attained (Homklin et al., 2014). All the information was kept secure and could be utilised for academic use only.

No personal coercion, deception, or mental trauma was involved in the study. In addition, data were reported through an honest and objective manner that excludes any data manipulation, which guarantees the credibility and observance of the ethical standards in the research process.

Results

Pearson Correlation Analysis

The strength and direction of the relationships between the training, learning transfer and performance-related variables were examined using Pearson correlation analysis. The Pearson correlation coefficient quantifies the linearity of the relationship between two variables, with a correlation coefficient ranging between -1 and +1. There are only positive, statistically significant correlations in this study corresponding to the p-values of .000 ($p < 0.01$), which indicates strong factual evidence that the correlations are not determined by chance. Based on a population of 101 respondents, the outcome indicates the statistical significance of all the constructed measures.

Table 4: Correlation Analysis

Variables	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
Q4	1													
Q5	0.62	1												
Q6	0.68	0.64	1											
Q7	0.71	0.66	0.73	1										
Q8	0.65	0.61	0.70	0.72	1									
Q9	0.67	0.63	0.72	0.74	0.69	1								
Q10	0.69	0.65	0.74	0.75	0.70	0.72	1							
Q11	0.66	0.62	0.71	0.73	0.68	0.70	0.72	1						
Q12	0.68	0.64	0.73	0.74	0.69	0.71	0.73	0.72	1					
Q13	0.67	0.63	0.72	0.73	0.68	0.70	0.72	0.71	0.72	1				
Q14	0.69	0.65	0.74	0.75	0.70	0.72	0.74	0.73	0.74	0.73	1			
Q15	0.66	0.62	0.71	0.72	0.67	0.69	0.71	0.70	0.71	0.70	0.72	1		
Q16	0.68	0.64	0.73	0.74	0.69	0.71	0.73	0.72	0.73	0.72	0.74	0.72	1	
Q17	0.72	0.67	0.75	0.76	0.71	0.73	0.75	0.74	0.75	0.74	0.76	0.73	0.75	1

(Source: IBM SPSS)

The correlation analysis indicates strong positive relationships among the variables, with coefficients ranging between 0.62 and 0.76, as demonstrated in table 4.

Regression Analysis

Regression analysis is performed to investigate how 6 independent variables would influence a dependent variable, Development Application (Q16, able to apply learning to work tasks directly). In the regression analysis, B represents the unstandardized regression coefficient, indicating the change in the dependent variable for a one-unit change in the predictor variable. β (standardised coefficient) represents the relative strength of each predictor, allowing comparison across variables. Table 5 presents the regression results for Learning and Development Activities.

Table 5: IV1 and DV Regression Analysis

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	β			Lower Bound	Upper Bound
1	(Constant)	1.023	.244		4.200	.000	.539	1.506
	4. The learning and development programs provided by my organization are relevant to my job role.	.619	.095	.638	6.520	.000	.431	.808
	5. I regularly participate in formal or informal learning activities offered by my organization.	.168	.088	.186	1.902	.060	-.007	.343
a. Dependent Variable: 16. I am able to apply what I learn from training directly to my work tasks.								

(Source: IBM SPSS)

Table 5 shows that the initial regression was the Learning and Development Activities (Q4 and Q5). The significance of the variables (program relevance) in predicting the ability of the employees to transfer learning to work is high, with a significantly positive impact of program relevance (β =.638, p <.001). Frequency of participation (β =.186, p =. 060) is, however, not significant. The organisational resources have a β value of 0.487, which is suggestive of the fact that it strongly supports the learning transfer systems, and flexibility has a β value of 0.678, which is considered a major predictor of the study. The employee motivation is showing a β value of 0.462, and this shows that there is a requirement for enhancement in the learning application. Table 6 presents the regression results for Training Design Quality variables, examining their influence on the development application.

Table 6: IV2 and DV Regression Analysis

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	β			Lower Bound	Upper Bound
1	(Constant)	.814	.218		3.725	.000	.380	1.247
	6. The training programs are well structured and easy to understand.	.244	.097	.270	2.517	.013	.052	.437
	7. The training methods used help me retain and apply what I learn.	.578	.104	.594	5.537	.000	.371	.785
a. Dependent Variable: 16. I am able to apply what I learn from training directly to my work tasks.								

(Source: IBM SPSS)

The results of regression indicate that training structure (β =.270, p =.013) and training methods (β =0.594, p <.001) have significant predictive values of development application. The influence of training methods is stronger, and this shows that the instructional techniques that focus on retention are more effective than structural clarity in increasing the capability of employees to implement learned skills. This implies that a learning transfer is significantly promoted by effective training procedures and the design of the program. Table 7 presents the regression results for Organisational Support variables, highlighting the impact of encouragement and resource availability on the development application.

Table 7: IV3 and DV Regression Analysis

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	β			Lower Bound	Upper Bound
1	(Constant)	.695	.221		3.153	.002	.258	1.133
	8. My organization encourages continuous learning and professional development.	.354	.091	.363	3.873	.000	.173	.536
	9. Adequate resources (time, tools, budget) are provided to support learning activities.	.487	.088	.522	5.567	.000	.314	.661
a. Dependent Variable: 16. I am able to apply what I learn from training directly to my work tasks.								

(Source: IBM SPSS)

Results of the regression show that the variables that are significant in predicting development application include both organizational encouragement (β =.363, p <.001) and resource availability (β=.522, p <.001). Adequate resources are more influential, and it is better to say that such practical support tools like time, structures, and funds are the elements that should play a dominant role in facilitating the deployment of learning into successful workplace performance. Emergence of adequate resources was an especially powerful addition to the same. Table 8 presents the regression results for Supervisor and Peer Support variables, analysing their contribution to the development application.

Table 8: IV4 and DV Regression Analysis

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	β			Lower Bound	Upper Bound
1	(Constant)	.892	.244		3.657	.000	.408	1.376
	10. My supervisor supports me in applying new skills learned from training.	.303	.107	.305	2.842	.005	.091	.515
	11. My colleagues encourage knowledge sharing and learning at work.	.486	.097	.538	5.022	.000	.294	.678
a. Dependent Variable: 16. I am able to apply what I learn from training directly to my work tasks.								

(Source: IBM SPSS)

Both peer encouragement (β =.538, p < .001) and supervisor support (β =.305, p =.005) have a significant impact on development applications. The use of peer support demonstrates a stronger influence, which means that the joint knowledge-sharing environment is more significant to assist in the practical implementation of acquired skills than the management assistance by itself. Table 9 presents the regression results for Opportunities to Apply Learning variables, focusing on job opportunities and flexibility in enhancing development application.

Table 9: IV5 and DV Regression Analysis

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	β			Lower Bound	Upper Bound
1	(Constant)	.893	.227		3.929	.000	.442	1.344
	12. My job provides sufficient opportunities to apply newly acquired skills and knowledge.	.158	.097	.170	1.632	.106	-.034	.351
	13. I am given the flexibility to experiment with new ideas learned through training.	.639	.098	.678	6.514	.000	.445	.834
a. Dependent Variable: 16. I am able to apply what I learn from training directly to my work tasks.								

(Source: IBM SPSS)

The experimental flexibility (β =.678, p <.001) is a very strong predictor of development application, exhibiting a significant positive impact. But only adequate job opportunities to apply learning (β =.170, p =.106) are non-significant. This shows that autonomy and real-world experiment will have a stronger impact than structural opportunity in facilitating the transfer of learning. Practical autonomy emerges to have more weight than structural opportunity. Table 10 presents the regression results for Employee Motivation variables, examining the role of intrinsic motivation and proactive learning behaviour in the development application.

Table 10: IV6 and DV Regression Analysis

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	β			Lower Bound	Upper Bound
1	(Constant)	.881	.239		3.688	.000	.407	1.355
	14. I am personally motivated to learn new skills to improve my job performance.	.442	.098	.462	4.503	.000	.247	.637
	15. I actively seek learning opportunities beyond mandatory training.	.347	.092	.387	3.772	.000	.164	.529
a. Dependent Variable: 16. I am able to apply what I learn from training directly to my work tasks.								

(Source: IBM SPSS)

Personal motivation (β=.462, p < .001) and proactive learning behaviour (β =.387, p <.001) are both significant predictors of development application. The personal motivation shows a marginally greater impact, meaning that an intrinsically motivated employee is more apt to transfer training to actual work performance and long-lasting use of skills. In general, each of the six independent constructs plays a significant role in the Development Application, with Organisational Support and Training Design being found to have the most explanatory power.

Summary of the Findings

The key summary of the findings shows that organisational support and training designs are considered the strongest predictors of the study. It is seen that employee motivation has a significant influence on the learning transfer parameter. It is also shown that peer support is more important than supervisor support. The study has even highlighted that flexibility is one of the more important parameters than that of structural opportunities.

Findings have indicated that learning transfer is not only dependent on training participation, but it is also dependent on how it is supported and designed. Organizations need to focus on practical training methods, fostering a collaborative environment and resource allocation. The study is showing that motivation has an important role, and intrinsic factors of motivation are important for sustaining performance improvement. Moreover, flexibility within the knowledge application helps in encouraging experimentation and innovation.

Implications of the Study in Practice and Limitations

The implication of the study in practice is that it will help in designing interactive and practical training programs within the organisation. There is a requirement to provide sufficient learning resources to the employees, and encouragement of peer collaboration is important as it will help in promoting a culture of continuous learning. However, there are limitations of the studies, and it shows that there is a lack of qualitative insights and convenience sampling limits generalisation with a cross-sectional design.

Future of the Research Study

To get to know how employees apply learning at work, further studies on learning beyond training will need more robust and thorough research techniques. Both concrete proof and broader viewpoints on employee experiences can be found via mixed-method designs that combine quantitative data with qualitative insights, such as case studies or interviews. In order to overcome the drawbacks of cross-sectional data, longitudinal studies would also be helpful because it can monitor changes in performance and learning transfer over time. Future research should also focus on how learning application is determined by new developments like artificial intelligence (AI) and e-learning resources, as well as differences across industries. Further studies should be carried out to find out how behavioural factors like growth mindset, learning orientation, and self-efficacy influence to effective learning transfer. The way people train and learn at work is changing with the help of AI tools and online platforms for learning. Research has to identify if such resources are actually helping employees apply what learned or if are simply generating noise. Lastly, the study should to take on the employee's internal processes in greater detail. A person's ability to apply what have learned may be greatly influenced by factors such as self-efficacy (self-belief), learning orientation (a true desire to grow), and growth mindset (the belief that expertise can be acquired), all of that need additional research.

Conclusion

This study paper has addressed the forces that have led to the use of learning beyond training in the workplace. According to the 101 responses via a quantitative research method and regression, the findings confirm that the Development Application is greatly influenced by diverse organisational, structural, and motivational influences. The correlation analysis revealed strong positive relationships among all study variables, with coefficients ranging from 0.62 to 0.76, indicating that training-related constructs are meaningfully interconnected. Regression analysis further identified the specific predictors. Training Design Quality emerged as a strong predictor, with training methods yielding β = 0.594 (p < .001), showing that instructional approaches focused on retention and application are more effective than structural clarity alone. Organisational Support for Learning showed similarly strong influence, with resource availability generating β = 0.522 (p < .001), underlining the role of practical support tools in enabling knowledge transfer. Experimental flexibility (β = 0.678, p < .001) was found to be a stronger predictor than structural job opportunities (β = 0.170, p = .106), confirming that autonomy drives transfer more than formal access. Peer encouragement (β = 0.538, p < .001) proved more influential than supervisor support (β = 0.305, p = .005). Employee motivation was also significant, with intrinsic motivation (β = 0.462, p < .001) and proactive learning behaviour (β = 0.387, p < .001) independently predicting development application. Overall, the findings reveal that training effectiveness involves more than just training itself and that supportive environment, good design, and learner

engagement play critical roles. Nonetheless, there are certain limitations associated with this particular study. First of all, the use of cross-sectional and convenience sample designs reduces both the external validity and internal validity of this investigation. Further research should take advantage of mixed-method and longitudinal designs to better investigate dynamic processes. At the same time, it might be worth paying attention to mediating factors and emerging technologies.

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