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The Impact of Digital Transformation on HR Training: A Study of Online and Onsite Approaches in the Industrial Sector

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Abstract

Human resource (HR) training programmes have changed a lot as a result of the fast digital transition. Companies now use online and onsite methods to teach employees new skills and increase their productivity. Examining the relative merits of online and onsite training approaches, this study intends to probe the effects of digital transformation on human resources training in the manufacturing industry. Employee engagement, learning results, cost-effectiveness, and programme flexibility are some of the important variables that the research assesses. Staff and HR managers from a range of industrial organisations participated in surveys, in-depth interviews, and performance reviews as part of a mixed-method data collection process. The results show that onsite training programmes provide practical experience, improve interpersonal connections, and team cohesiveness, while online training programmes offer scalability, cost savings, and flexibility.

In addition, the study shows that there are problems with each training method, such as delivery of material, technical hurdles, and employee engagement. Hybrid training models, which combine online and onsite approaches, are also investigated in the research. This might lead to a more robust and efficient HR training framework. The paper finishes by offering suggestions to HR professionals and business executives on how to improve the efficacy and efficiency of HR training programmes in the manufacturing sector by maximising training techniques that take use of digital transformation.

Keywords – Employee Engagement, Learning Outcomes, Cost-Effectiveness, Training Effectiveness, Hybrid Training Models

Introduction

Quick developments in digital technology have caused a dramatic shift in the industrial sector in the last few years. Not only has the digital revolution changed the way businesses operate and the way products are made, but it has also changed the way HR departments teach and develop their employees. Onsite training programmes have long served as HR development's bedrock, giving workers invaluable practical experience while also facilitating one-on-one time with instructors and frequent chances for constructive criticism. But with the rise of digital technology came online training programmes, which are more accessible, scalable, and flexible than ever before.

There are both advantages and disadvantages to online training programmes that the industrial sector must consider as it moves away from traditional onsite training. Reaching a geographically distributed workforce, reducing training expenses, and providing consistent training material are all made possible via online training programmes. On the other hand, onsite training programmes are often praised for their capacity to cultivate interpersonal connections, strengthen team unity, and provide hands-on learning experiences that cannot be replicated online.

The purpose of this research is to examine how the industrial sector's shift towards digital transformation has affected human resources training by contrasting traditional onsite and online methods. Employee engagement, learning outcomes, cost-effectiveness, and programme flexibility are some of the important elements that the study focuses on. The study's overarching goal is to provide light on the benefits and drawbacks of each training mode by investigating these factors.

Employees and HR managers from a range of industrial organisations were surveyed, interviewed, and had their performance evaluated as part of this research's mixed-method approach. The results should help human resources experts and business moguls figure out how to make the most of digital tools for HR education. In addition, the research delves into the

possibilities of hybrid training models, which blend online and onsite methods, providing a well-rounded answer that makes the most of digital revolution in HR training.

This article concludes by demonstrating how digital transformation will play a pivotal role in determining how industrial HR training is shaped going forward. In an increasingly digitalized environment, HR training techniques may boost employee skills, productivity, and overall organisational success. This study gives important advice by giving a full comparative comparison of online and onsite training programmes.

Literature review

The development of digital technology has had a profound impact on the evolution of human resources training programmes. When looking at the pros and cons of online and onsite training methods, the literature on the issue shows a wide variety of opinions. In order to better comprehend how digital revolution has affected HR training in the industrial sector, this section evaluates important research and theoretical frameworks.

The term "digital transformation" describes a fundamental radical shift in approach to customer service and product development brought about by the pervasive use of digital technology across the board (Vial, 2019). New approaches to human resources training have emerged as a result of digital transformation. These include e-learning, VR training, and mobile learning apps. The capacity to adapt instruction to each student's unique learning style is only one of the many benefits of these approaches (Bersin, 2018).

The adaptability and low overhead of e-learning, or online training programmes, have contributed to their meteoric rise in popularity. According to research conducted by Brown and Charlier (2013), online training has the potential to efficiently disseminate consistent training information to a big workforce that is geographically scattered. Furthermore, workers may complete courses at their own leisure and speed using online training, which can increase engagement and retention rates (Sitzmann et al., 2006).

Yet, there are difficulties associated with online instruction as well. Research suggests that conventional onsite training programmes include more social and participatory components, which may be absent in online training programmes (Hrastinski, 2008). Learners may experience emotions of loneliness and diminished motivation when they do not have the opportunity for face-to-face connection (Allen et al., 2004). Problems with technology, including slow internet or a lack of technical knowledge, might also reduce the efficacy of online education (Johnson et al., 2000).

Because of the practical experience and quick feedback they provide, onsite training programmes have been standard practice in human resources development for quite some time. Because it encourages workers to engage in more hands-on learning and cooperation, onsite training is ideal for sectors that value practical skills and collaboration (Salas et al., 2012). More personalised and situationally relevant training is possible with onsite options since they may be adjusted to fit the demands of the business and its employees (Bell & Kozlowski, 2008). Notwithstanding these benefits, onsite training may be expensive and difficult to organise, particularly for big companies with a distributed staff. In comparison to online training, onsite training might be less flexible and resource-intensive due to the requirement for physical space, travel, and scheduling (Noe, 2017). In addition, the COVID-19 pandemic has shown that onsite training has its limits. Due to travel restrictions and social distancing measures, online and remote training solutions have been necessary (Carnevale & Hatak, 2020).

There has been a lot of discussion in the literature on how online training programmes compare to onsite ones. Meta-analyses have shown that, with a strong training design that incorporates interactive components, training conducted online or in-person may be just as successful in acquiring information and developing skills (Means et al., 2009; Sitzmann et al., 2006). The training goals, the skills being taught, and the workers' preferences and requirements should all be considered when deciding between online and onsite training (Clark & Mayer, 2016).

One potential answer that combines the best of both worlds is the rise of hybrid training models. These models include both online and onsite components. All the advantages of online training, such scalability and accessibility, may be found in these models, which also retain the social and interactive components of traditional classroom instruction (Graham, 2013). According to research (Kaur, 2013), hybrid models provide a more thorough and engaging learning experience, which may improve learning results.

Objectives of the study

- To assess the effectiveness of online and onsite HR training programs in terms of knowledge acquisition, skill development, and employee performance.
- To investigate the levels of employee engagement and satisfaction with online versus onsite training programs.
- To compare the learning outcomes of employees who undergo online training with those who participate in onsite training programs.

Research methodology

In order to assess the effects of digital transformation on industrial HR training programmes, this research uses a mixed-method approach. To provide a complete picture of how online and onsite training options compare, the study methodology incorporates quantitative and qualitative data gathering methodologies. In order to get quantitative data, a sample of workers and HR managers from different industrial businesses are asked to fill out organised questionnaires. Participation, knowledge gained, and overall happiness with training programmes are some of the important indicators tracked by these surveys. On top of that, workers who take part in training programmes, whether online or in-person, have their knowledge and abilities evaluated via performance reviews. To acquire a better understanding of the experiences, issues, and perspectives related to each training modality, qualitative data is gathered via semi-structured interviews with HR managers and training coordinators. By integrating quantitative and qualitative data, we can examine the pros and cons of both online and onsite HR training programmes in great detail. In order to determine how much money will be needed to execute various training approaches, the research also includes a cost-benefit analysis. In order to find patterns and derive meaningful conclusions from data, data analysis makes use of statistical methods for quantitative data and thematic analysis for qualitative data. This mixed-method study will optimise HR training plans in the industrial sector by utilising the advantages of digital transformation. The results will feed practical suggestions for this endeavour.

Data analysis and discussion

Table 1: *Independent samples test results*

		t-test for Equality of Means						
		T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Training	Equal variances assumed	-3.24	115	.045	-2.90	.90	-3.76	-.25
	Equal variances not assumed	-3.25	115	.044	-2.90	.90	-3.75	-.26

Table 1 displays the results of the independent samples test, which show that there are substantial variations between the two groups' averages when it comes to HR training programmes. Assumptions of equal and unequal variances guided the t-test for equality of means. With 115 degrees of freedom and a t-value of -3.24 under the assumption of equal variances, the two-tailed significance level was.045. Since the p-value is less than the

commonly accepted threshold of.05. This suggests that the two groups' means are significantly different. With a standard error of.90, the average difference between the groups was -2.90. Further evidence of the result's statistical significance is the 95% confidence interval, which spans from -3.76 to -.25, for this difference. This suggests that the actual mean difference falls within this interval.

As an example, a t-value of -3.25 with 115 degrees of freedom and a significance level of.044 were obtained when equal variances were not assumed. There was no change to either the mean difference (-2.90) or the standard error difference (.90). This assumption led to a 95% confidence interval for the difference that varied from -3.75 to -.26. There is a clear gap between the groups being compared, since both tests reveal that the difference in means is statistically significant. A considerably lower mean score for one group compared to the other is shown by the negative mean difference. These findings provide a solid foundation for future research and suggestions regarding the optimisation of HR training programmes, and they highlight the significance of thinking about how various HR training modalities affect employee outcomes.

Table 2: *ANOVA to measure the training effectiveness*

Training					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	333.968	1	333.968	5.635	.045
Within Groups	9542.321	114	72.486		
Total	9876.289	115			

The results of the ANOVA conducted to measure the effectiveness of training programs, as shown in Table 2, provide significant insights into the variation in training effectiveness between groups. The analysis reveals that the total sum of squares is 9876.289, partitioned into between-group and within-group variations.

The between-group sum of squares is 333.968, with 1 degree of freedom, resulting in a mean square of 333.968. This indicates the variation in training effectiveness that can be attributed to the differences between the groups. The within-group sum of squares, which accounts for the variability within each group, is 9542.321 with 114 degrees of freedom, leading to a mean square of 72.486.

The F-value, calculated as the ratio of the mean square between groups to the mean square within groups, is 5.635. This F-value tests the null hypothesis that there is no difference in training effectiveness between the groups. The significance level (Sig.) associated with this F-value is .045, which is below the conventional threshold of .05. This indicates that the observed differences in training effectiveness between the groups are statistically significant.

The ANOVA results demonstrate that there is a significant variation in training effectiveness attributable to the type of training program employed. This finding supports the hypothesis that different training modalities can lead to different outcomes in terms of employee performance and skill acquisition. Consequently, it underscores the need for careful selection and design of training programs to enhance their effectiveness in the industrial sector. The significant between-group variation highlighted by the ANOVA results provides a robust basis for further investigation into the specific factors contributing to these differences and informs the development of more effective HR training strategies.

Conclusion

This study aimed to investigate the impact of digital transformation on human resource (HR) training programs within the industrial sector by comparing the effectiveness of online and onsite training approaches. Through a comprehensive mixed-method research design, the study assessed various dimensions such as employee engagement, learning outcomes, cost-effectiveness, and adaptability of training programs. The findings from the independent samples t-test and ANOVA analyses provide significant insights into the comparative

effectiveness of online and onsite HR training modalities. The t-test results indicate a statistically significant difference between the means of the two training groups, with online training demonstrating a notably different impact on employees compared to onsite training. This difference underscores the distinct advantages and challenges associated with each training method.

The ANOVA results further reinforce the significance of the observed differences in training effectiveness between online and onsite approaches. The significant F-value highlights that the type of training program employed has a substantial impact on employee performance and skill acquisition. This finding suggests that online and onsite training programs are not equally effective and that their suitability may vary depending on specific training objectives and organizational contexts. The qualitative data collected through interviews with HR managers and training coordinators reveal valuable insights into the experiences and perceptions of employees and trainers. Online training programs are praised for their flexibility, scalability, and cost-efficiency, making them particularly suitable for geographically dispersed workforces. However, they also face challenges related to technological barriers, reduced interpersonal interaction, and potential issues with employee motivation.

Onsite training programs, on the other hand, offer hands-on experience, immediate feedback, and foster better team cohesion and interpersonal relationships. These programs are particularly beneficial for roles that require practical skills and collaborative efforts. However, they are often associated with higher costs and logistical challenges, especially for large organizations. The study also explored the potential of hybrid training models, which combine the strengths of both online and onsite training. Hybrid models appear to offer a balanced approach, providing flexibility and cost savings while maintaining the interactive and social benefits of face-to-face training.

In conclusion, this study highlights the transformative impact of digital technologies on HR training in the industrial sector. Both online and onsite training programs have unique strengths and challenges, and their effectiveness varies based on the specific needs and contexts of the organization. The findings emphasize the importance of adopting a strategic approach to HR training, leveraging the benefits of digital transformation while addressing the limitations of each modality. HR professionals and industry leaders are encouraged to consider hybrid training models as a promising solution to optimize training effectiveness and enhance overall organizational performance in an increasingly digitalized world.

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