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Evaluating the Efficacy of Online and Onsite HR Training Methods in the Nagpur Industrial Context

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Abstract

The fact that the digitalization of the learning process at the workplace is accelerated has altered the training practices of the human resource and hence, compelled industrial organization to assume the new responsibility of combining online and real world training form. The project evaluates the efficiency of on site and on line training of human resources in the industrial set up in Nagpur region. These training models will also be compared by the study regarding the effectiveness of learning, employee engagement, acquisition of skills, cost effectiveness and the overall experience that is obtained on job performance. The descriptive and analytical research design that was used to collect primary data comprised implementation of the same technique on employees and HR professionals in sampled industrial units, through structured questionnaires. The measurement of the difference in training outcomes was allowed by applying statistical tests such as the t-tests, correlation analysis and mean analysis. The findings show that online based training is more flexible, online based training is more accessible as well as economical, but the real life skills developed during the onsite training is superior, with respect to the practice skills as well as inter-personal and experiential learning. The article underlines the importance of mixed training methodology to streamline the process of gaining workforce as far as industrial organizations are concerned. The findings can be derived as an informative guide to the HR managers and other policy makers to develop effective training practices that are in tandem with the organizational objectives in the dynamic industrial environment.

Keywords: Human Resource Training, Online Training, Onsite Training, Training Effectiveness, Industrial Sector, Employee Skill Development, Learning Outcomes, Nagpur Region

Introduction

The contemporary industrial environment has been characterized by the large level of the technological advancement, the increased competition, and the constant advancement and change of the organizational frameworks and the method of work. One of the most important factors of health success in this dynamic environment and employee training and development has become an important strategic role among human resource management. The industrial sector is also taking their time in structured training processes as a way of enhancing employee competencies, productivity and be able to adapt to the nature of change in both operational needs. Traditionally, the most popular type of human resource development in the industrial sector is onsite or face to face that is more oriented toward direct interaction, on the job learning and direct transfer of learning. However, the evolution of digital technologies and the overall acceptance of e-learning systems have significantly transformed the training setting and now online and training are commonly utilized in industries.

Online training has gained its fame due to flexibility, scale and low cost, which allows organizations to train vast and geographically distant workforces at a low cost merely to see that the operations of the firm are not impacted so heavily. It has been conferred by the convergence of learning management systems, virtual classes, video based courses and interactive on-line media that organisations can enable the delivery of standard trainee interventions and also enable individual advancements of learning. The second quality choice to traditional training is online training in the scenario of the industrial organizations where continuity of the work and time-efficiency are the most important matters. In addition, the shift



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to the remote-work models and the hybrid workforce models post-pandemic has contributed to the increase of the uptake of online training as an option and a necessity in some cases in developing the human resources. Despite these advantages, one still has the concern of whether online training can impart practical knowledge to trainees to ensure classroom participation, as well as provide real-time assessment and feedback particularly in the industrial training that requires practical skills and abilities, collectively through problem-solving.

Onsite training, on its part, continues to play an important role in the industrial world as it emphasizes on direct supervision, direct demonstrations and socialization. F2F training enables the trainers to offer training based on the immediate response of the trainee, instruct them in teamwork and to facilitation of the organizational culture. It is also seen that training at work is superior in the manufacturing and industrial worlds to develop technical and safety awareness and operational expertise. However, a onsite training is more expensive in terms of logistics, time and is not as adaptable so it can only be used in large industrial organization or when distributed among employees geographically. This will leave the HR managers with issues of effectiveness versus efficiency in the selection of applicable training modes.

The Nagpur area can be regarded as a special and timely case to consider the effectiveness of HR training practices in the internet or on-site because of the orientation on the industrial sector. Nagpur is an up-and-coming industrial centre in the central India that has a very diverse range of manufacturing, processing, logistic, and service-based industries. These organizations are starkly different in areas relating to size, application of technologies, employment structure and training facility. As compared to other industries in the region, which have embraced the digital training media, there is that category that embrace traditional on site trainer mediums. The influence of the coexistence of the training techniques, provides us with an institute to be able to readjust their helpfulness to some extent, under a uniform area and manufacturing division. The attitude and usefulness of the employees to the different training modes matter in the designing of training strategies of HR that are more contextual and results-oriented.

The literature that is available indicates conflicting findings on the relative effectiveness of online training and onsite training. Whereas in some of the studies, there is emphasis on effectiveness and convenience of learning online, others present excellence of face-to-face training in instilling a more profound learning and skills transfer. However, the result of the empirical examination of the training practices in industries in regions especially the medium sized industrial belts such as Nagpur has some weakness. Moreover, minimal efforts have been put on comparative studies which consider other issues regarding training efficacy like result of education, extent of participation, cost implication as well as impact on job. This gap needs to be bridged otherwise a valuable contribution as to how the training strategies, meet industrial realities, will be developed.

It is against this backdrop that this research paper targets to evaluate and compare relative trainability of online and on site training on human resource on the industrial organization in Nagpur area. The outcome of the research based on the experiences of the employees and training outcomes will assist in providing evidence-based data on the strengths and weaknesses of each training mode. The findings will be applicable in informing HR practitioners about training design and implementation by training manager and policymakers in decision making. In conclusion, the research study contributes to the overall discussion on the workforce development in terms of incorporating adapting and blending training approaches that will contribute to sustainability in the industrial growth and competitiveness of the organization.

Literature Review

Training and development have been viewed as critical instruments in enhancing the performance of employees, organizational productivity as well as competitiveness in the long term. Several empirical studies in industrial and geographical environment have examined the

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connection between training procedures and employee results that demonstrates that training is a strategic human resource intervention and not a routine procedure by the administration. The literature available shows that an effective training positively affects the skills of the employees, their motivation and work performance but varies according to the training design, delivery mode and context depending on the organization.

Mahadevan, Ananthalakshmi, and Yap (2019) carried out a study that examined how different training solutions play out in influencing the performance of employees in a Malaysian-based direct selling company. Their study centered on the fact that structured training programs are very effective in making the employees efficient in their capability of performing their tasks, their confidence and how they go about it. The findings showed that both the traditional and modern ways of training have positive correlations with performance with the effectiveness highly dependent on the coinciding aspect with the functions of the employees and the type of learning preference. The paper justifies that it is essential that the appropriate training methods are chosen in order to achieve optimal performance output and reveals this fact particularly when the comparison is made on online versus onsite training methods.

Similarly, Shafiq and Hamza (2017) evaluated the role of training and development in affecting the performance of the workers in the private companies of Malaysia. Their analysis showed that there exists a positive correlation that is high between training programs and high employee productivity, job satisfaction and commitment. According to the authors, continuous training will enhance the flexibility of employees to the emerging demands of the organization. Although a differentiation between on-site and online mode was not well stated as part of the research, the investigation revealed that systematic training evaluation is necessary to set up training effectiveness with the potential to give the foundations of the comparison of training delivery modes.

Another article by Otuko et al. (2013) also focuses on vulnerability of a set of training dimensions to the work performance of employees using a case study of Mumias Sugar Company in Kenya. Their findings indicated that training needs assessment, training content, and training delivery had numerous implications that one can observe that they might be significant in the performance of the employee. Practical job-based training was referred to as having a greater influence in the performance of students than were theoretical measures in the paper. This enhances the idea that onsite training, which in most instances involves the learning aspect on the practical aspect, can be more suitable in the industrial environment where technical and operational expertise are required.

Singh (2015) researched how training and development programs affect the productivity of the employees in Bharat Heavy Electricals Limited (BHEL), an Indian firm working in the industrial industry. The final stage of the research revealed that training programs played an important part in enhancement of employee productivity, technical competence and quality of work. Singh again argued that face to face training would lead to closer interaction of trainees and trainers that will translate to better appreciation as well as application of skills. This fact is of particular interest to those fields of industry where the real time supervision and experience are crucial concerns.

Ampomah (2016) reviewed the impact of training and development on the performance of employees in privately owned institution of tertiary education in Ghana. It was found in the study that the efficiency of their performance of the employees who were undertaking frequent training programs was more efficient since employees had greater knowledge of the job and ability to provide services. The other important impact of to the study is the employee perception towards training as it was established that though the content is significant in the effectiveness of training, the methods applied to conduct the training and the engagement of the learner influence the effectiveness of training. These lessons may be implemented in the

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analysis of the contentment and/or participation of the employees to the online and onsite training options.

Grading the significance of employee training in terms of its role in determining the success of the organization, Vijayabanu (Chidambaram) has observed that organizational employee training schemes have a contribution factor to the personal as well as organizational betterment. The paper also highlighted the need to conduct continuous training appraisal in order to spark off alignment with the organizational goals. Despite the fact that the essence of training delivery did not represent the main area of the study, the research confirms the thesis that the efficiency of training must be dependent on its relevance in the setting, which, in its turn, supports the notion that training in one region and one industry must be compared to some extent.

In their extensive literature review of the efficacy of training, Ramachandran and Amudha (2012) were able to identify the most prevalent factors to have an implication on training efficacy which include training design, trainer competency, learning environment, and post-training evaluation. Through their literature review it has been observed that the outcomes of the training will tremendously vary depending on the mode of delivering the training and the organizational support. The authors have indicated the growing relevancy of training based on technology but have cautioned against overlooking the use of face-to-face method in relation to jobs that involve high levels of skills.

In recent times, Urbincova et al. (2021) conducted a study to investigate the effective training evaluation and identified factors that are influential to establish employee training effectiveness evaluation. They analyzed the component of systematic evaluation model which is the organizational culture and the employee involvement in determining the training success. The research has identified the increase of interest towards the digital training modality, as well as the necessity to approximate qualitative and quantitative outcomes. The paper provides a contemporary paradigm of measuring online and on-site training effectiveness on the foundation of multidimensional measure.

In its entirety, literature review has given a very solid conclusion that training and development has the potential to cause a significant improvement on employee performance as well as organizational performance. Although, in research majority studies are fixed on the theme of effectiveness in training as an entirety, there is minimal comparative research of the two categories of training online and onsite training particularly in industrial and regional environments. The research has found that there is a huge gap in the study to investigate the delivery of different ways of training application at different levels such as engagement, acquisition of skills, cost effectiveness as well as job performance in the emerging industrial regions such as Nagpur. The proposed study intends to address this flack by a comparative evaluation of web based and real-life HR training methods within Nagpur industry environment in such a way that it may be adopted to complement the empirical results in the scientific literature, and the notion of managerial practice.

Objectives of the Study

1. To examine the existing online and onsite human resource training methods adopted by industrial organizations in the Nagpur region.
2. To compare the effectiveness of online and onsite HR training programs in terms of employee learning outcomes.
3. To analyze the impact of online and onsite training modes on employee performance and skill development.

Hypothesis:

H₁: There is a significant difference in the online and onsite human resource training methods adopted by industrial organizations in the Nagpur region.

Research methodology

The proposed research will be a descriptive and analytical research to study and compare efficiency of using online and onsite human resource training programs in industrial organizations based in

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Nagpur area. The data source to be used in the study is both the primary and secondary data. The main information is obtained utilizing a structured questionnaire to the employees, as well as the HR professionals of the chosen industrial units containing such points like training techniques, learning efficiency, the extent to which employees are engaged, developing the skills, and the level of impact on the job performance. The stratified random sampling technique is adopted because it enables the adequate representation of the many types of industries and category of employers. The secondary information is generated by the search of research journals and books, reports of companies and other Internet sources relevant to the theoretical framework used in the research. The statistical software helps to conduct the analysis of the collected data using appropriate statistical tools (percentage analysis, means scores, t-tests, and correlation analysis). The discussion of the results is aimed at the formulation of the useful conclusions regarding the comparative advantage of the online and onsite training approach and provides the effective guidelines to assist in the implementation of the training practice improvement in the HR sphere of the industrial sphere.

Table: Descriptive Statistics of Online and Onsite HR Training Methods

Training Mode	Number of Respondents (N)	Mean Score	Standard Deviation	Minimum	Maximum
Online Training Methods	120	3.68	0.74	2.1	4.8
Onsite Training Methods	120	4.12	0.61	2.5	5

As indicated by the descriptive statistics, it appears that there was an apparent difference between the online and onsite human resource training with regard to its adoption by industrial organizations in Nagpur region. The mean of the onsite training approach (Mean = 4.12, SD = 0.61) is lower than the mean of the online training methods (Mean = 3.68, SD = 0.74) which implies that the respondents consider the onsite training training methods more effective and suitable in the industrial bearings. The less standard deviation of onsite training means that the reaction of the employees is more similar in this case, that is why it can be considered quite homogenous in the sense of its acceptance and perceived effectiveness of the face-to-face training courses. On the other hand, the variability of responses of online training is greater and therefore depicts difference in accessibility, engagement and flexibility amongst employees. The lowest and highest measures also serve as a purpose of showing that internet based training is moderately acceptable and onsite training has a more favorable agreement among the respondents. These outcomes confirm the assumption that there is a gaping distance between the practice of online and onsite HR training and display the fact that the application of the traditional training methods is still significant in industrial organizations despite the growing popularity of the digital training tools.

Table 1: Group Statistics

Training Mode	N	Mean	Std. Deviation	Std. Error Mean
Online Training Methods	120	3.68	0.74	0.068
Onsite Training Methods	120	4.12	0.61	0.056

Table 2: Independent Samples Test

Levene's Test for Equality of Variances	t-test for Equality of Means				
F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
2.146	0.144	-4.92	238	0	-0.44
		-4.92	234.6	0	-0.44

The hypothesis that the differences between the online and onsite training of human resources in industrial organisations in Nagpur area is significant is tested using independent Samples t -

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test. Those results document the average score of onsite training (Mean = 4.12, SD = 0.61) is far superior to the score of online training (Mean = 3.68, SD = 0.74). Test of Equality of Variances by Levene has a non-significance result which is = 0.144 means the assumption of equality of variance is met. The result of t-test indicates that the difference in the two modes of training is statistically significant ($t = -4.92$, $df = 238$, $p < 0.05$). This finding is a sound empirical confirmation of the hypothesis, that is, industrial organisations in the Nagpur region operate rather different in terms of implementing and experiencing online and onsite training in the context of applying the HR training practices. The higher number on the case of onsite training would show that there is more inclination and perceived validity of a conventional and face-to-face training-method-ology in the industrial industry in regards to the skill based and operational learning requirements.

Discussion

The study findings reveal that there is statistically significant difference between online and onsite human resource training program that is being implemented by industrial organizations in Nagpur region thus clear the above hypothesis. The fact that onsite training with the mean greater than the one with online training demonstrates that onsite training is more effective and can be applied to the industrial environment among workers and HR professionals. This is due to the nature of the industrial that in most instances requires practical learning, on the job supervision and instant resolution of issues - elements that may be best imparted in the face to face training arrangement.

The results align with the past studies such as Singh (2015) and Otuko et al. (2013) that found out that onsite training is effective in enhancing technical skills, productivity, and efficiency of the employees in the industrial and manufacturing setting. Onsite training is a chance to receive immediate feedback, interactive training and more attentive to reality in the work environment thus increasing the transfer and retention of skills. The variations in the responses to onsite training were not very high, further showing that the level of acceptance and effectiveness would be the same when addressing different units within the industry throughout the region. The mean achieved a relatively lower online training but this cannot be considered as ineffective. Instead, the findings indicate that the drawbacks of digital training practices in industrial organisations, such as reduced engagement of trainees, technological specifics, and inability to offer effective training associated with practice skills were found. These findings are in line with the literature that regards the flexibility and lower cost of online training as permissible but raises concerns about the practice in the frames of experiencing learning (Mahadevan et al., 2019; Urbancova et al., 2021). The further impact on the perceived effectiveness of online training in the mentioned areas is also possible since the challenges are relevant in such places like Nagpur, where the industrial units are not technologically ready yet and where the digital literacy of the working workforce is lower.

The observed large difference, as indicated by use of t-test, depicts that, industrial organizations should make context-specific approach to training design. The findings fail to show the necessity to look at online and onsite training as two poles of opposite sides as opposed to the possibility of a blended training model, which would involve the flexibility of online training and the pragmatics of onsite training. This can be opted to maximize training in organisations with a relative measure of cost limitation and operational limitation.

In most instances, the discussion revealed that mode of delivery is not the only indicator of effectiveness of training in the industrial sector but the mode of delivery should be grounded on the job demands, learner demands and organizational context. The contribution the research offers to the literature is the provision of the region-based empirical research on Nagpur industrial sector and its practical implication in helping the HR managers to formulate the effective and sustainable training strategies.

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Overall Conclusion

This research paper provides an analogy of online and onsite human resource training that is adopted by industrial organisations in Nagpur region and concludes that a gap exists between the two training applications and is very wide. It is quite obvious, by empirical evidence that onsite training is deemed as having more effect than the online training on the industrial setup, specifically on the facets of practical skill acquisition by the employees together with general training performance. This variance is statistically verified by the production of the Independent Samples t-test, which in its turn confirms the hypothesis of the study.

Though the list of positive outcomes of online training is remarkable, with the flexibility, cost-effectiveness, and increased coverage being included, it does not appear that the given method can possibly reach the desired objectives in the industrial realm thanks to such considerations as the level of technology preparedness, computer skills, and the need to pursue the learning process in a practical and experience-focused format. Onsite training on the other hand will also be related depending on the degree of interaction being provided onsite training, which are real time interaction, immediate feedback and are able to apply the learnt skills immediately into the work place environment. These qualities make it particularly appropriate in the industries, where precision of actions and technical aptitude is either exceptionally essential.

It is noted in the paper that none of the two types of training is capable of addressing the diverse learning needs of the industrial workforce. Therefore, a more viable and lasting solution is then the blended training where the online and in-site training is systematically integrated. This approach would be in a position to tap the benefits of both of the modes and combine their weaknesses. Overall, the findings can be of help to HR managers and policymakers to come up with context-driven training approaches and contribute to the current knowledge base because it can enrich it with empirical data of the Nagpur industrial area.

References

1. Mahadevan, A., & Yap, M. H. (2019). Impact of training methods on employee performance in a direct selling organization, Malaysia. *IOSR Journal of Business and Management (IOSR-JBM)*, 21(10), 8–15.
2. Shafiq, S., & Hamza, S. M. (2017). The effect of training and development on employee performance in private company, Malaysia. *International Journal of Education, Learning and Training*, 2(2), 15–22.
3. Otuko, A. H., et al. (2013). Effect of training dimensions on employee's work performance: A case of Mumias Sugar Company in Kakamega County. *International Journal of Business and Management Invention*, 2(9), 12–20.
4. Singh, T. (2015). Efficacy of training and development programs on employees productivity at Bharat Heavy Electricals Limited. *International Journal of Allied Practice, Research and Review*, 2(2), 9–16.
5. Ampomah, P. (2016). The effect of training and development on employee performance in a private tertiary institution in Ghana: Case study of Pentecost University College (PUC). *Asian Journal of Social Sciences and Management Studies*, 3(1), 5–12.
6. Vijayabanu, C. (n.d.). [Details not provided—complete citation needed].
7. Ramachandran, A., & Amudha, A. (2012). A study on efficacy of employee training: Review of literature. *Verslas: Teorija ir Praktika*, 13(3), 275–282.
8. Urbancová, H., Vrabcová, P., Hudáková, M., & Petrů, G. J. (2021). Effective training evaluation: The role of factors influencing the evaluation of effectiveness of employee training and development. *Sustainability*, 13(5), 2721. <https://doi.org/10.3390/su13052721>