

Integrating Data Analytics With Training For Better Talent Growth

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Abstract

With fast pace changes in technology, employees need to perform well and be competent in their task. They should be Upskilled and Reskilled, for acquiring new knowledge, and abilities and be a 'talented' one to face challenging situation. Training so becomes very important function of Human Resource Management (HRM), which contributes in learning, development and growth of employees. Research says that 80% employees believes that training makes them feel more engaged, but it is not effective, because they are trained on the wrong things that don't help them in their jobs. These issues can be tackled by Data analytics, which is a process of collecting and analyzing of the data. This paper tries to investigate how data analytics has made difference in training activity. Nearly 40 manufacturing industries, large and medium, were surveyed from Nasik district. The result obtained by using 'Z test' concludes that the integration of data analytics in training is very useful for identification & growth of talent.

Keywords: Training, Data Analytics, Learning & Development, Human Resource, Skill, Knowledge.

1. Introduction

In a massive Indian population, turning human beings into human resource is utmost important for financial stability. it is necessary for individual to get training for job, to fill gap between institute and industry and do qualitative work. Training function can be applied both as a reactive approach for solving current problems, as well as proactive approach, to deal with future problems. Survey of several Companies proves that investment in training brings in 24% increase in profit margins. Stavros et al., (2004) proposes that the main goal of training is to provide, obtain and improve the necessary skills in order to help organizations achieve their goals.

Training can be conducted, for the following purposes,

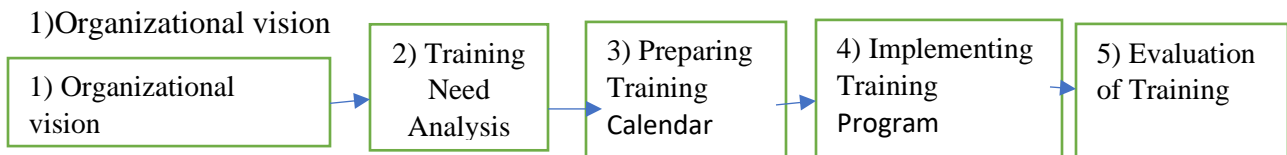
- i) To improve job performance.
- ii) To keep in line with change in technology.

iii) Preparedness for future role or succession planning

iv) for creating motivating and engaging employees for their retention

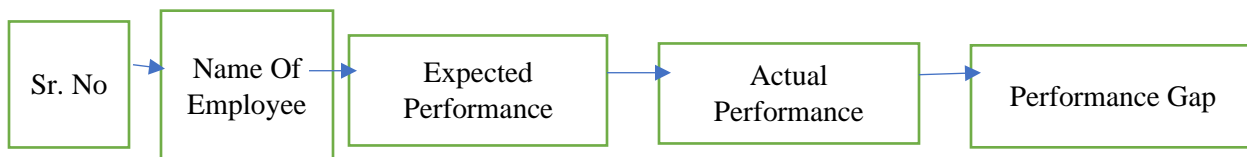
Data driven systems or analytics in training function can help company to monitoring and control the process of training very well. Let us try to understand it from each step of training function.

Fig 1.1 Diagram of Model for training function



Training has mainly three phases,

i) Planning: In a Planning Phase, it begins with organizational vision, in which objectives of training should be clearly documented with appropriate information. Karthik R (2012) says that training objectives tell the trainee that what is expected out of him at the end of the training program. Training Need identification, is most important part, wherein actual need of training is identified by looking at gap in performance, through the data in Performance appraisals. Supervisors also prepare the data on their teams for finding the training need depending on their performance. They normally use a form, in which data can be filled to get gap in performance.



This helps in getting exact need of training by data analytics. HR professionals are required to develop personalized training programs based on individual's skill gaps. Approximately all employees should get at least 14 to 16 hrs. of training per year, and it can be properly managed by analyzing the available data.

ii) Implementation: In this phase, following things should be taken care of

a) The Topics of Training should be as per need, which emerges from skill gap

b) No. of participants should be appropriate

c) Venue should have good atmosphere and aesthetic look with least disturbance

d) The Trainer should be very experienced in that field. He should be responsible for getting good feedback from training

iii) Evaluation: In this phase, Trainings should be evaluated at the end by conducting tests or filling feedback forms, and a record of it should be preserved and analyzed to keep inventory of skills of employees, to refer it in next training.

The analysis of training is important as it can answer the question like

- a) Which T & D methods have the maximum impact on employees' job performance?
- b) What is the ROI (Return on Investment) of training program?

It is evident from above that lot of data is collected before, within, & after the training. Data Analytics can be effectively used to provide quality training, which will be helpful for attaining business goals and for creating good work environment.

Objectives

- i) To study the leverage of data analytics in training function.
- ii) To investigate the intervention of data analytics in measuring effectiveness of training in terms of growth.

Hypothesis

H1: Data Analytics has significant intervention in the training function

H2: Data Analytics in training invigilates a proper growth of talented employees

The application of Data analytics in Training is linked to the prosperous business output , by having a appropriate growth, performance and retention of talented employees .Data Analytics in training also gives benefit that, due to the stored data it allows knowing the experiences of past training from past data to suggest the improvements in the future training programs

2. Literature Review

Literature review gives the idea about the previous work done by the authors and thinkers on this topic. It is very essential to evoke the thought process. According to the Michel Armstrong(2001), "Training is systematic development of the knowledge, skills and attitudes required by an individual to perform adequately a given task or job". Goldstein & Ford (2002) refers training as a systematic approach for learning and development to improve individual, team, and organizational effectiveness. Aniruddha Banerjee (2004), says that Training activities needs to contribute in achievement of corporate goals and objectives, else it becomes fruitless. Steven W. Schmidt(2009) [1]is in dilemma of how to most effectively and efficiently meet the needs of all learners in the workplace, having different job duties, backgrounds, skills and abilities. It is true in the sense that, really it is difficult to do so, but deep mining in data can find the appropriate solution for it. Another research paper by Özge Demiral(2017)[2] analyzes how the formal training services that companies offer affect their employees' job satisfaction and achievement levels that consequently increase organizations' productivity-based gains. Singh et al (2017) refers that data analytics will have a good influence on training. It helps the HR professionals in making rational decisions whilst enhancing the strategic impact of HR on the business performance. Kamel Barbar& Radwan Choughri1 (2019) [5] stated that HR professionals are depended on HR analytics in order to formulate the employee development strategies they also suggested that business should integrate HR analytics into the process of decision making and development strategy formulation. Dr. Mridula Mishra (2021) [9] says that We can observe a shift of training & development process

from traditional method to modern hiring data driven process in modern organization where the HR analytics comes into picture which uses multiple mix of data in training & development. Previous studies have also confirmed the importance of data analytics in measuring performance, determining compensation, and facilitating employee engagement and motivation. Fink and Sturman (2017) states that, the role of data analytics in training is crucial, analytics-based dashboard helps to design personalized training. Sutisoft (2017) talks about Predictive data analytics that can reveal how employees feel about training, how much they are liking it.

3. Research Methodology

The collection of secondary data involved searching the online database for the term “Training”, “Analytics in training”, and other. Primary information was collected by the questionnaire, considering the research problems and objectives and the questions were asked, face to face or online to the HR or training professionals one each from 40 manufacturing industries of Nasik district. Some structured interviews are also conducted by asking, personal and paper related questions. The statistical analysis is done by using SPSS and excel software. Since the parameter of interest is proportion, ‘Z’ test is used to get the result.

Questions for Hypothesis 1

The frequency distribution of respondents according to Questions for Hypothesis 1

HR Analytics has significant intervention in the Training function	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Trainings can be better if data analytics is used in it.	0	0	0	21	19	40
%	0.0	0.0	0.0	52.5	47.5	100.0
With Data Analytics, better insight in training need is obtained.	0	0	0	14	26	40
%	0.0	0.0	0.0	35.0	65.0	100.0
Data Analytics assists in predicting future training programs for Talent,	0	0	5	17	18	40
%	0.0	0.0	12.5	42.5	45.0	100.0
With Data Analytics the proper Planning of the Training is done.	0	0	2	18	20	40
%	0.0	0.0	5.0	45.0	50.0	100.0

Data Analytics, will ensure streamlining of training with business goals.	0	7	12	13	8	40
%	0.0	17.5	30.0	32.5	20.0	100.0
Due to Data Analytics, cost on Training is controlled.	0	0	2	23	15	40
With Data Analytics Proper Return on Investment is ensured from training.	0	1	7	22	10	40
%	0.0	2.5	17.5	55.0	25.0	100.0

Table 9: Questions for Hypothesis 2

The frequency distribution of respondents according to Questions for Hypothesis2 along with it's bar graph is as given below.

HR Analytics in training invigilates a proper growth of Talented employees	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
With Data Analytics Proper evaluation of training is done.	0	0	6	22	12	40
%	0.0	0.0	15.0	55.0	30.0	100.0
Due to Data Analytics talent is identified in training.	0	7	4	18	11	40
%	0.0	17.5	10.0	45.0	27.5	100.0
Data Analytics in training guides in predicting career path and succession plan of talent	0	0	7	19	14	40
%	0.0	0.0	17.5	47.5	35.0	100.0
Due to data Analytics in training proper Knowledge gain is acquired for talent growth.	0	0	0	21	19	40
%	0.0	0.0	0.0	52.5	47.5	100.0
With Data Analytics in training a proper vigilance in skills of talent is kept.	0	0	0	19	21	40
%	0.0	0.0	0.0	47.5	52.5	100.0

The attitude of employees improves due to use of Data Analytics in Training	0	7	11	22	0	40
%	0.0	17.5	27.5	55.0	0.0	100.0

Hypotheses Testing

The parameter of interest in all the hypothesis is proportion of respondents favoring the hypothesis & using such a sample proportion it would be decided whether the proportion is adequate or not that is whether it is significantly greater than 50% or not. Hence significant result would imply that the population proportion under consideration is adequate that is greater than 50%. Since the parameter of interest is proportion; to test the hypothesis, the test used is z test for proportions. Here hypothetical value of proportion is taken as 50%.

Hypothesis1: Data Analytics has significant intervention in the Training function.

To test the hypotheses,

The null hypothesis, H₀:

Data Analytics doesn't have significant intervention in the Training function.

Vs.

The alternative hypothesis, H_a:

Data Analytics has significant intervention in the Training function.

The test used is z test for proportions.

Test statistics:

$$Z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1-p_0)}{n}}}$$

Here \hat{p} = sample proportion, p_0 = hypothetical value = 50% = 0.50, n = sample size = 40

If p value < 0.05, the level of significance; the result is significant.

Calculation table:

Data Analytics has significant intervention in the Training function	Frequency (Agree + Strongly Agree)	Proportion	Z Statistics	P value	Significance
Trainings can be better if data analytics is used in it.	40	1.00	6.32	0.0000	Significant

With Data Analytics, better insight in training need is obtained.	40	1.00	6.32	0.0000	Significant
Data Analytics assists in predicting future training programs for Talent,	35	0.88	4.74	0.0000	Significant
With Data Analytics the proper Planning of the Training is done.	38	0.95	5.69	0.0000	Significant
Data Analytics will ensure streamlining of training with business goals.	21	0.53	0.32	0.3759	Not Significant
Due to Data Analytics, cost on Training is controlled.	38	0.95	5.69	0.0000	Significant
With Data Analytics Proper Return on Investment is ensured from training.	32	0.80	3.79	0.0001	Significant

If p value < 0.05 , the level of significance; the alternative hypothesis is accepted.

Since p value is less than 0.05 for 6 questions out of 7 questions; the alternative hypothesis can be accepted for all these questions.

Conclusion:

For the majority of questions (6 out of 7) alternative hypothesis is being accepted.

Hence Data Analytics has significant intervention in the Training function.

Hypothesis1 is accepted.

Hypothesis2: Data Analytics in training invigilates a proper growth of Talented employees.

To test the hypotheses,

The null hypothesis, H_0 :

Data Analytics in training does not invigilate a proper growth of Talented employees.

Vs.

The alternative hypothesis, H_a :

Data Analytics in training invigilates a proper growth of Talented employees.

The test used is z test for proportions.

Test statistics:

$$Z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1-p_0)}{n}}}$$

Here \hat{p} = sample proportion, p_0 = hypothetical value = 50% = 0.50, n = sample size = 40

If p value < 0.05, the level of significance; the result is significant.

Calculation table:

Data Analytics in training	Frequency (Agree + Strongly Agree)	Proportion	Z Statistics	P value	Significance
invigilates a proper growth of Talented employees					
With Data Analytics Proper evaluation of training is done.	34	0.85	4.43	0.0000	Significant
Due to Data Analytics talent is identified in training.	29	0.73	2.85	0.0022	Significant
Data Analytics in training guides in predicting career path and succession plan of talent	33	0.83	4.11	0.0000	Significant
Due to data Analytics in training proper Knowledge gain is acquired for talent growth.	40	1.00	6.32	0.0000	Significant
With Data Analytics in training a proper vigilance in skills of talent is kept.	40	1.00	6.32	0.0000	Significant
The attitude of employees improves due to use of Data Analytics in Training	22	0.55	0.63	0.2635	Not Significant

If p value < 0.05, the level of significance; the alternative hypothesis is accepted.

Since p value is less than 0.05 for 5 questions out of 6 questions; the alternative hypothesis can be accepted for all these questions.

Conclusion:

For the majority of questions (5 out of 6) alternative hypothesis is being accepted.

Hence HR Analytics in training invigilates a proper growth of Talented employees.
Hypothesis 2 is accepted.

4. Findings & Discussion

In the testing of first Hypothesis, that the data analytics has significant interventions in training function, , The only one area where it is not significant is that the data analytics is not been able to streamline the training with the business goals. The reason for this may be that the business goals, which are set by top management have not filtered down to the HR teams for arranging the training programs, as per fig 1.2 the data analytics in training should achieve the business output, if it is not achieved then it has to take further steps.

In the testing of second hypothesis, that the data analytics in training, invigilates proper growth of talented employees, most of the elements are significant. The only field which is not significant is that that the attitude of employees is not been able to controlled even by introduction of data analytics. But the analysis has accepted second hypothesis, that Data analytics is important in Training for growth of a Talent.

The Findings from above is that

1. There is certainly an improvement in the Training & Development with the help of Data Analytics
2. Data Analytics is helpful in knowing the effectiveness of Training & Development in analytical manner
3. Data Analytics has reduced the cost of Training & Development
- 4 Data analytics has help in enhancing the number of talents, through proper training

5. Conclusion

For long term success of any organization the focus on human asset and their training is very important. Human resource of any organization cannot be imitated, it has to be built by training, which gives safety, better communication, good culture, best quality product, and boost employee motivation. . Data analytics has fruitful leverage in training function right from finding training need analysis, to its strategic application in planning, implantation and evaluation, It will promote the growth of talented employees by monitoring their performance, adding more knowledge, skills in their current and for future job. The inventory of their skills will be maintained by using suitable software like excel, and the analysis is obtained on dashboard for quick decision.

Further research can be done, to know the impact of Data analytics in training on Growth and retention of employees.

6. References

- 1 Schmidt Steven (2009) “Employee demographics and job training satisfaction: the relationship between dimension of diversity and satisfaction with job training” Human Resource development international
- 2 Özge Demiral (2017) Effect of Training on Employee Job satisfaction and achievement: ‘Train to Gain’ Evidence From Manufacturing Business In Turkey” Business And Management Studies: An International Journal
- 3 Banu Ozkeser (2019)” Impact of training on employee motivation in human resources management “3 rd. World Conference on Technology, Innovation and Entrepreneurship (WOCTINE) Procedia Computer Science
- 4 Kulkarni Pallavi ;(2019) “A Literature Review on Training& Development and Quality of work Life “Journal of Management and Strategy
- 5 Kamel Barbar, Radwan Choughri1 & Moetaz Soubjaki(2019) “the Impact of HR Analytics on the Training and Development Strategy”, in case studies in Lebanon
- 6 Bharthvajan, R. and Kavitha, S.F. (2019). A Research on Effectiveness of Training and Development in its Solutions, International Journal of Innovative Technology and Exploring Engineering.
- 7 Retno Sari Murtiningsih(2019) The Impact of Compensation, Training, and Development and Organizational Culture on Job Satisfaction and Retention Indonesian management and Accounting Research
- 8 Suman Ghalawat, Kiran , Joginder Singh Malik (2020) “Impact of Training and Development on Employees’ Performance and Productivity” Indian Journal of Extension Education
- 9 Paleti Narendar1, Dr. Mridula Mishra(2021), “Impact of HR Analytics on Training and Development in An Organization” published in Psychology and Education