MEASUREMENT OF TRAINING & DEVELOPMENT EFFECTIVENESS—AN EMPIRICAL STUDY

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ABSTRACT
People are considered to be the source of competitive advantage. Many forward looking organizations are giving more emphasis to employees and their related issues. In the cut-throat competitive world, the organizations have realized that their most valuable asset is their human capital and many are convinced for large investments in employee training and development. However mere investment is not adequate; they have to ensure that the investment made will generate good returns. As a backdrop to this, the present study is undertaken to analyze training & development effectiveness in an organization. The present study was conducted in an IT organization located in Hyderabad. The results of the study revealed that there is a positive correlation between the four dimensions of training program- effective determination of training needs, good training design, efficient trainer and trainee performance and overall training effectiveness which is significant at 0.01 level. This indicates that effective determination of training needs, good training design, efficient trainer and trainee performance will increase the effectiveness of the training & development program.

KEY WORDS: Human capital, Training and development effectiveness.

Introduction:
The modern day business organizations are reeling under intense competition and accordingly there are dramatic changes in the approaches adopted by the organizations to survive and excel in this competitive world. Human capital is a major weapon used by organizations as it is considered to be a source of competitive advantage. This competitive advantage can be made sustainable only when human capital is knowledgeable and dexterous. Training and Development function ensures that human capital inculcates required knowledge and abilities. The organizations have long understood that their most valuable asset is their human capital and many are convinced for large investments in employee training and development. Organizational training activities are capable of becoming sources of competitive advantage (Barney, 1995) through their positive impact on employees’ productivity (Ng & Siu, 2004) and their contribution to business objectives (Dobson & Toh, 1998). It is an undisputed fact that effective training is considered to be an investment in the human resources of an organization that yields both immediate and long range returns. However mere investment is not enough; firms need to manage training programs more effectively so that they can get the highest returns from their
investment. Training alone is not the answer to a sustained competitive advantage for organizations. Training evaluation gives guidance to organizations on their investment on human capital investment because it is a means of determining whether or not the training has been of value to the business. (Galanou and Priporas, 2009.)

Objectives of the Study:
- To study perception of employees towards Training & Development function
- To study the training & development climate prevailing in the organization
- To analyze effectiveness of Training & Development function

Methodology:
The study was conducted in an IT organization located in Hyderabad, Andhra Pradesh. For a population of 200 employees working in the organization, a sample of 50 (25% of population) respondents is taken using simple random sampling. The required data is collected from the sample respondents using a structured questionnaire. The most popular method which is used extensively for eliciting opinions and attitudes in research is the Likert method of summed ratings and it is used in the present study. The initial part of the questionnaire entails demographic characteristics of the respondents. The later part has 20 statements seeking a response over five point Likert scale. These 20 statements are designed based on research objectives that address different dimensions - Training Needs, Training Design, Trainer Performance, Training Evaluation, Trainee Performance, Satisfaction with Training & Development and Developmental Climate. The data is analyzed using various statistical measures. Causal analysis is used to identify the relationship between different dimensions of training with the help of correlation and regression tools. A statistical measure mean is also used in analyzing data.

Results and Discussion:
Objective1: To study perception of employees towards Training & Development function.
Perception of employees toward training and development function is studied covering various dimensions like training needs, training design, trainer performance, trainee performance training evaluation and satisfaction with training programs.

Determination of Training Needs:
Needs assessment is very important as the training & development programs have to be designed based on the training needs identification. Training should be designed and delivered to meet the needs of all employees, and employees should perceive that they are being treated fairly and equitably with regard to the training they receive (Schmidt Steven W. 2009).
In the present study, it is a healthy sign that majority (80%) of the respondents opined that training needs are determined based on employee requirement which is turn facilitates effective design of training program. If the training programme addresses needs of trainees, he/she attains a high level of satisfaction and grades the training delivered as very effective (Lina Vyas, 2004).

Training Design:
Training design refers to the degree to which the training has been designed and delivered in such a way that provides trainees the ability to apply learning on the job (Holton, 2000). Training
design dimension envisage effective design of training material, quality of manuals and schedule of training.
An empirical study (Manju.S & Suresh B.H., 2011) on 30 industrial units revealed that the training design interventions have got the due attention of the industrial units and training design and implementation is significantly related to effectiveness of training. In the present study, 72% of the respondents agreed that training is effectively designed in the company, where as only 4% disagreed that training design is effective and 24% are neutral. As majority of the respondents opines that training design is good, it can contribute to the effectiveness of training.

**Trainer Performance:**
The performance of the trainer is an important factor that contributes to the effectiveness of the training and development. In this context, the organization has to take utmost care and attention in choosing the appropriate trainer and ensure that trainer can deliver the intended results. The effective trainer’s performance requires that the trainer has to make the learner comfortable, emphasize the importance and constituents of the job, and its relationship to workflow, make the learners feel free to interact and ask questions, grab the attention and keep the learners engaged, find out what the learner already knows about his job or other jobs and understand the gap and explain things in a simple manner using examples which are familiar to the learners. The trainer has to choose appropriate methods based on the objectives and the learners’ style.
Trainer performance dimension encompasses trainer delivery, use of suitable methods during training program. 74% of the respondents perceived that trainer performance is effective during training programs in the company while 22% are neutral and only 4% of the respondents are not satisfied with the performance of the trainer.

**Trainee Performance:**
Through training & development, motivational variables of recognition, achievement, growth, responsibility & advancement are internalized and operationalized. It also helps in encouraging & achieving self development & self confidence, helps a person handle stress, tension, frustration & conflict, provides the trainee an increase in salary, an avenue for growth & a say in his/her own future. Training is a vital ingredient of the bundles of practices arising from research into high performance work systems (Ashton and Sung, 2002, cited in Smith and Smith 2007). Hutchings et al., (2009) expressed that training and development is most effective in motivating and retaining high quality human resources within organizations when operationalized along with other high performance work practices to which it is interrelated, namely rewards and performance management. Training and development practices have a positive impact on preparing them to be more effective in their work, increasing their technical abilities, interpersonal abilities, teamwork, job confidence and work motivation.
It is observed that 54% of respondents agreed that training positively contributes to increase in skills, performance and leads them to take up future assignments confidently. 20% of respondents strongly agreed that training program benefits them and 26% are neutral.
Table 1
Mean Scores of the Dimensions of Effectiveness of Training & Development

<table>
<thead>
<tr>
<th></th>
<th>Training Needs determination</th>
<th>Training Design</th>
<th>Trainer Performance</th>
<th>Trainee Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.96</td>
<td>3.84</td>
<td>3.98</td>
<td>3.76</td>
</tr>
</tbody>
</table>

Table 1 shows that the mean scores of all the dimensions of effectiveness of training & development are pretty high. The mean score of trainer performance is relatively high with 3.98 closely followed by the mean score of training needs determination with 3.96 indicating relatively high level of satisfaction with these dimensions when compared to training design and trainee performance.

Objective 2: To study training and development climate prevailing in the organization

Training and Development Climate:
Top management commitment towards development of employees, importance given to training programs, sponsoring employees to attend external training and well designed and widely shared training policy in the company determine training and development climate in a company. Data was collected on these dimensions. 70% of respondents agreed that the organization has healthy training and development climate in the company while 24% are neutral and 6% disagreed.

Satisfaction with Training & Development Programs:
60% of the respondents are satisfied with the training & development programs as they provide an increase in salary and promotion to higher levels. This leads to higher job satisfaction and more commitment from the employees. Only 6% are not satisfied while 34% are neutral in terms of satisfaction with training & development programs.

Objective 3: To study effectiveness of Training & Development

One important dimension that helps in determining the effectiveness of training & development programs is training evaluation.

Training Evaluation:
Training should be evaluated during the process. The effectiveness of any training program is determined not only by the successful acquisition of critical knowledge but also the ability to effectively transfer that knowledge to the performance environment (Alkesander P.J. Ellis, Bradford S. Bell, Robert E. Ployhart, John R. Hollenbeck, Daniel R. Ilgen, 2005). Employees should be evaluated by comparing their newly acquired skills with the skills defined by the goals of the training program. Any discrepancies should be noted and adjustments have to be made to the training program to enable it to meet specified goals. Many training programs fail short of their expectations simply because the administrator fails to evaluate its progress until it was too late. Timely evaluation will prevent the training from straying from its goals.

In the present study, 58% of the respondents agreed that training is effectively evaluated in the company. 32% of respondents neither agreed nor disagreed with effective training evaluation and 10% are not satisfied with evaluation of the training programs. This indicates that there is scope
to improve the effectiveness of training evaluation which is a very important component in the program.

Effectiveness of training & development programs:
Training effectiveness is based on the effective determination of training needs, training design, trainer performance and trainee performance. It is observed that 28% of respondents strongly agreed that training programs conducted in the company are effective. 60% of the respondents agreed that training programs are effective. Whereas only 4% are of different opinion that training programs are not effective and 8% are neutral in their opinion. It is a noteworthy feature that majority of the respondents perceived that the training & development programs are effective.

Table 2
Correlation between effectiveness of training and training dimensions

<table>
<thead>
<tr>
<th></th>
<th>Training Needs</th>
<th>Training Design</th>
<th>Trainer Performance</th>
<th>Trainee Performance</th>
<th>Training effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training Needs</td>
<td>Pearson</td>
<td>.555**</td>
<td>.381**</td>
<td>.271</td>
<td>.746**</td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td>.000</td>
<td>.006</td>
<td>.057</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Training Design</td>
<td>Pearson</td>
<td>1</td>
<td>.567**</td>
<td>.334**</td>
<td>.735**</td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td>.000</td>
<td>.000</td>
<td>.018</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Trainer Performance</td>
<td>Pearson</td>
<td>.381**</td>
<td>1</td>
<td>.292*</td>
<td>.566**</td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td>.006</td>
<td>.000</td>
<td>.039</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Trainee Performance</td>
<td>Pearson</td>
<td>.271</td>
<td>.334*</td>
<td>.292*</td>
<td>.542**</td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td>.057</td>
<td>.018</td>
<td>.039</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Training effectiveness</td>
<td>Pearson</td>
<td>.746**</td>
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<td>.542**</td>
</tr>
<tr>
<td></td>
<td>Correlation</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

**, Correlation is significant at the 0.01 level (2-tailed).
*, Correlation is significant at the 0.05 level (2-tailed).

There is a positive correlation between all dimensions (training needs, training design, trainer performance, trainee performance) and training effectiveness. Training need is positively correlated with training effectiveness at 0.746, Training design is positively correlated with
Training effectiveness at 0.735, Trainer performance is positively correlated with training effectiveness at 0.566 and Trainee performance is also positively correlated with training effectiveness at 0.542. Among all dimensions, training needs and training design are more positively correlated with training effectiveness.

It is very clear that there is a positive correlation between the dimensions of training program and overall training effectiveness which is significant at 0.01 level. This indicates that effective determination of training needs, good training design, efficient trainer and trainee performance will increase the effectiveness of the training & development program.

Table 3
ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>19.387</td>
<td>4</td>
<td>4.847</td>
<td>42.662</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>5.113</td>
<td>45</td>
<td>.114</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>24.500</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Trainee Performance, Training Needs, Trainer Performance, Training Design
b. Dependent Variable: Training effectiveness

Table 5.11
Regression analysis of training effectiveness

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.073</td>
<td>.316</td>
<td>.231</td>
<td>.819</td>
</tr>
<tr>
<td>Training Needs</td>
<td>.400</td>
<td>.075</td>
<td>.442</td>
<td>.000</td>
</tr>
<tr>
<td>Training Design</td>
<td>.307</td>
<td>.089</td>
<td>.321</td>
<td>.001</td>
</tr>
<tr>
<td>Trainer Performance</td>
<td>.117</td>
<td>.072</td>
<td>.136</td>
<td>.112</td>
</tr>
<tr>
<td>Trainee Performance</td>
<td>.212</td>
<td>.057</td>
<td>.275</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Training effectiveness

Regression equation

\[ Y = 0.73 + 0.40X_1 + 0.307X_2 + 0.117X_3 + 0.212X_4 \]

Where,

Y – Training Effectiveness
X1 – Training Needs
X2 – Training Design
X3 – Trainer Performance
X4 – Trainee Performance

Training effectiveness is a dependent variable and independent variables include training needs, training design, trainer performance and trainee performance. The F-value of 42.662 at a significant level of less than 1% indicates that dependent variable is significantly explained by changes in independent variables to a greater extent.
Conclusion

Training and Development contributes in such a way that employees can enhance their dexterity. There is a causal relation between training and employee performance. Training helps organizations in achieving their strategic objectives and gives organizations a competitive edge. In this context, organizations train and develop their employees to the fullest advantage in order to enhance their effectiveness.

It is not just sufficient to conduct a training program. Organizations should evaluate whether training & development programs are effective and producing desired results. Proper evaluation is the base to effective training. Based on the present study, it can be concluded that effectiveness of training & development significantly depends on training needs determination, training design, trainer performance and trainee performance. In this context, appropriate attention has to be devoted for all the influencing dimensions that have a telling impact on training & development effectiveness.

References: