

# THE MEASUREMENT OF TRAINING EFFECTIVENESS

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**Abstract:** Training is critical to the achievement of competitive advantage. Since training has many positive outcomes which are beneficial to the success of the organization, it is important that training be effective. Training is considered to be effective when it achieves the objectives it intended to achieve and when the consequences of training are in alignment to the achievement of the organisational goals. In this context, it is important that the effectiveness of training is measured. This paper intends to discuss the importance of the measurement of training effectiveness and the different approaches employed in measuring it. This is done with the help of a systematic review of literature. A number of important articles on the topic were identified and the relevant theory is analyzed here.

**Keywords:** Training, Training effectiveness, Measurement, Systems approach.

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## I. INTRODUCTION

In order to stay ahead competition, it is essential that organization's are involved in training since training can serve as a source of competitive advantage. Training the employees of an organization leads to an increase in productivity and eventually excellence in value offerings, since the performance of employees is regarded as critical in the efficient performance of work processes. Research has shown that there is a positive relationship between training and firm productivity. The need for training becomes even more paramount where the performance of employees is critical to the achievement of the organizations core processes. In this regard, it is important that the effectiveness of training is measured in-order to check for its ability to help in the attainment of organisational objectives. Measuring the effectiveness of training is especially important during times of economic uncertainty since wastage of limited resources can be detrimental to the success of the organisation. Not evaluating the effectiveness of training will make it difficult to ascertain if training is at all necessary.

In this paper we will elaborate on the measurement of training effectiveness, the different approaches towards measuring it and looking at training through a systems thinking approach by analyzing published research work on the three different mentioned topic. The last part of the paper will give concluding remarks on the importance of measuring training effectiveness. In addition, limitations of the paper will also discussed.

## II. METHODOLOGY

The paper is framed through a systematic review as it helps us to find out, analyse and consolidate existing literature in a manner to give us the ability to conclude on specific ideas, this approach is the most appropriate in this context according to Denyer and Tranfield (2009). The review is based on peer-reviewed papers only. A number of databases were searched for appropriate materials. Significant articles on the topic were chosen. The articles which were searched were only ones which were written in English.

The method of data collection is structured on Tranfield, Denver and Smart's (2003) principles of review. A primary search is first done with the keyword list created. Screening the abstracts was the next stage of the review. The screening criteria was that the article is written in English and the abstracts were evaluated from the context of relevance to the topic. Articles which were from sources which were non-academic in nature were not considered.

The shortlisted articles were then analyzed by going through the complete document. The references of the papers were also analyzed to find other useful paper for review. As a result of this analysis, a few articles were shortlisted which became the core of our analysis.

### **III. MEASUREMENT OF TRAINING EFFECTIVENESS**

Since the impact of training is difficult to ascertain outrightly and immediately the process of evaluation can be challenging. Certain indicators can give an indication of the success of training and development according to Armstrong and Baron (1998), ie. the focus is on the development of people, the competency frameworks are developed for the organization specifically with everyone's involvement and that performance management skills training is given to the employees. Armstrong and Baron (1998) also mention that it is important to measure training in order to ascertain if training helps in achieving the objectives of the organization, how training is linked to the critical success factors of the organization, how it establishes individual objectives, how it relates to job responsibilities, how well does it encourage personal development, if it addresses company policies, whether it is consistently administered and how well supervisors and employees are trained to use and live under the system.

According to Wang and Wilcox (2006) training programs should have an evaluation component to measure its utility to measure if the program has achieved what it intended to. The last phase of the ADDIE model which is evaluate is usually ignored when organisations implement training programs according to them. Some organizations according to Swanson (2005) do not find it important to measure how effective training is. This can be disastrous for the organization because if training is not evaluated, it would be difficult to measure how effective it is and whether any changes are required to make training more aligned to the constantly changing demands of the business world. Philips and Stone (2002) in their work mention that there must be a measurement and evaluation process to ascertain the contribution of training.

Philips (1997) in his work mentions that measuring the effectiveness of training can help to ascertain if training has helped attain program objectives, determine if any changes are required in the training program, to identify if the benefits of the training program outweigh the costs of implementing them, to identify which participants have gained the most to make a decision regarding them, to gather information for future programs and establish a database to help management in decision making.

To make training effective, it is first necessary for organizations to ascertain the needs of the participants with regards to what is required to train them in. This can be done with the help of research on the trainees or their managers. After the needs are determined, the learning outcomes which can best help to fulfill those needs are inculcated in the training program.

The methodology of the training will be influenced by the outcome which is intended to be attained through the training intervention. According to Wilson (1999), the purpose in evaluating a training program influences the choice of method and approach of the program. How successful training has been can be measured by measuring whether the objectives of intervention have been achieved or not. In this perspective it is important for the objectives to be SMART. A way of measuring effectiveness can be e.g. conducting tests on the employees to measure their performance in the tests before and after a training program. According to Wang and Wilcox (2006) measuring the success of the training program may not be possible immediately since learners may not be challenged with situations to demonstrate their acquired skills and would require sufficient time for such opportunities to occur in their setting. The main objective of training is essentially learning.

Bee and Bee (1994) in their work mention that measuring the effectiveness of training is important since it helps in improving the quality of the training, helps in assessing the effectiveness of the training methods, justifies whether the benefits outweigh the costs of training and justifies the role of training in cutback situations for budget purposes.

### **IV. APPROACHES TO MEASURING THE EFFECTIVENESS OF TRAINING**

A number of approaches have been proposed by scholars to measure the effectiveness of training ranging from and including the goal based approach, the professional review approach and the quasi-legal approach. A number of techniques are applied today in organizations to evaluate the effectiveness of training. A brief overview of the techniques are given hereunder:

In informal evaluation, the trainers constantly observe the behavior of the trainees ranging from their comments, their body language, their views and opinions of the management. This is an effective approach towards measuring the effectiveness of training. Bias however according to Bramley (1986) while using this approach has to be taken care of since the informal evaluation can be misused to play power games. In this context hence the trainer has to be aware of organizational politics.

In phased tests, tests are conducted to measure the progress of learning with feedback as an indicator to ascertain if any modification in training is necessary.

In final tests, the trainees are tested at the end of the intervention on their learning.

In profiling, employees are compared with a set of standards and each other.

In projects, the staff is expected to prepare and complete a project after the training course as an indicator of the effectiveness of the training program.

In surveys, questionnaires are administered on respondents who are the trainees to check for their opinion about the training programs.

In interviews, respondents are asked a series of open ended questions one-to-one, this is a preferred method to test the effectiveness of a training program.

In desk research, secondary data is collected and evaluated to measure the results of training activities to compare them with pre-activity data to understand how effective the training program has been.

In observation, the behaviour of the trainee is directly observed to assess the skills and changes in behavior.

In cost-benefit analysis, the effectiveness of intervention is measured by comparing the costs involved with its benefits. If the benefits outweigh the costs the training is said to be effective.

In spot checks, the effectiveness of training is measured by asking questions often.

In reactionnaire, the effectiveness of the training program is measured by ascertaining the reaction of the participants.

In group discussion, the participants of the training program are involved in a discussion which gives an idea of their opinions and enhancement of learning if any.

Many organizations also use use impact evolution to gain an understanding of the effectiveness of training.

Philips (1997) recommended the ROI formula which is applied in these situations.

Wang (2002) identified control groups to ascertain the net benefit derived from a training program.

The effectiveness of training is measured widely using the Four-level model of evaluation developed by Kirkpatrick and Davis (1994). At level one known as reactions, evaluation measures how participants of the training program perceive it. This tool is known as the smile sheet.

According to Kirkpatrick and Davis (1994), every program should at least be evaluated at this level with the help of methods like focus groups, questionnaires and informal comments. At level two called learning a conscious effort is made to determine the extent to which participants of the training program have improved in knowledge and skills. This is done with the help of tools like pre- and post- test scores, on-the-job assessments and supervisor reports. At level three, transfers, whether there has been a transfer in the participants learning behaviour is measured. This is measured with the help of methods like self assessments and on-the-job observations. This level is the best assessment of a program's effectiveness. At level four which is known as results, the effectiveness of the intervention is measured with the help of tangible metrics like increased revenue, increased production, decreased cost of production, reduced complaints and higher profits.

According to Winfrey (1999) it is however difficult to associate these tangible results to the training intervention directly as the impact of the training program might instead be indirect.

## V. TRAINING VIS-A-VIS THE SYSTEMS APPROACH

Senge (2014) in his book *The Fifth Discipline* introduced the concept of the learning organisation, an organization that promotes the learning of its members and is in the continuous process of transforming itself is known as a learning organization. The author in his book proposes five disciplines, which are systems thinking, personal mastery, mental models, shared vision and team learning. Systems thinking is an approach where the organization is treated as a system of sub systems interrelated to each other. In-order to be successful, organisations need to analyze the dynamics of the relationships between the subsystems and ascertain issues in them. In this context it is important to look at all elements of an organization through the prism of systems thinking approach and understand in this perspective that the impact of training is paramount.

## VI. CONCLUSION

The literature review provided an opportunity to collect and analyze papers on the topic of training and the measurement of its effectiveness. The most relevant topics on the area were identified and a substantial amount of literature was analysed to better understand the concepts.

A limitation of the review was that the literature which was evaluated was in English language. There is a possibility of important materials existing in other languages which were ignored.

It is recommended that research conducted in the future should focus on the benefits of the measurement of the effectiveness of training and the comparative measurement of effective training from the perspective of the different group of stakeholders.

It is important that training be effective and have an impact since organisational resources are allocated to it. Training will be considered effective, if the training programs help the organization in achieving its goals and objectives. If training is not effective, it leads to a waste of resources, resources which otherwise could be deployed elsewhere for more productive purposes. It is better to have no training at all if it does not lead to positive outcomes.

The argument however does not intend to imply that the concept of training per-se be undermined. Training leads to the feeling of self-attainment amongst employees and also enhances their job satisfaction. It would be a favorable situation if the personal goals of employees are aligned to organizational goals, as this would ensure that training and the impact of training would be beneficial to the employees and eventually to the organization.

To sum up, an understanding can be gained of the effectiveness of training when the outcomes the training intervention attempts to achieve are achieved. The measurement of the achievement of the outcomes and the effectiveness of the training intervention can be done with the help of varied types of assessment and evaluation tools. Training is important since its outcomes are critical to the success of the organisation and taking this into consideration training can only be successful when due attention is paid to it.

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