

# Managerial Training Effectiveness: An Assessment through Kirkpatrick Framework

Jolly Sahni

*College of Business Administration, Prince Sultan University, Riyadh, Kingdom of Saudi Arabia*

**Abstract** – The present study is undertaken to investigate the effectiveness of a managerial training with the help of Kirkpatrick framework. It evaluates training at two levels of Kirkpatrick framework; reaction and learning among trainees through a use of cross-sectional data. Two sets of questionnaires were filled by the trainees, the first one assessed the training satisfaction and the second measured the learning of trainees immediately after completing the training. Data is collected from 136 full time employees from middle-level management positions and is analysed using SPSS AMOS 25.0. The findings suggest a high level of training effectiveness at both levels; satisfaction and learning. The training success was associated with four factors; practical orientation, training environment, role of trainer, and training usefulness.

**Keywords** – Training effectiveness, working environment, training usefulness, trainer, learning, Kirkpatrick framework.

## 1. Introduction

Training has become particularly significant in the development of human resources for both public and private organizations in the current knowledge era [1]. Especially the managerial skills training on time management has proven to help managers and executives to organize and perform better [2], [3].

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**Corresponding author:** Jolly Sahni,  
*College of Business Administration, Prince Sultan  
University, Riyadh, Kingdom of Saudi Arabia.*

**Email:** [jsahni@psu.edu.sa](mailto:jsahni@psu.edu.sa)

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Literature suggests that time management training is also found to be associated with overall wellbeing of employees and managers. For example, studies have found a positive association of time management skills with reduction in anxiety and stress for working adults [4], [5]. The role of training is not limited to improving the performance of employees in terms of increased efficiency and productivity, but it also has a great impact on employee turnover as well as employee engagement [6].

Moreover, training has proven to be a prominent academic subject for investigating the influence on employees and organizational performance. It is considered as an indispensable component of human resource development for centuries now. The significance of training is multifold in the present era, which is marked by globalization, fierce competition and job-hopping. Training is an instrument to expand the knowledge base of the employees and allows them to transfer this on their jobs in the form of improved performance. It is generally defined as a systematic acquisition of skills, concepts or attitude that results in improved performance. Training and development not only enhances the efficiency and effectiveness among employees but also give employer a competitive advantage in the form of trained human capital.

Organizations are increasingly investing in the human resource development function and in particular, training the human capital [7]. The evaluation of the training program is essential and would benefit organizations in assessing the outcome and results more precisely. This will ensure that the funds invested in the training are not futile. Moreover, the outcome of evaluation can further be used in improvement of future training programs. There is an ongoing trend for training evaluation in the private sector, it is probably least developed in government organizations, as according to a study it is noted that the training evaluation is difficult and time consuming; training administrators assume that training is always effective and formal evaluation is unnecessary [8]. Particularly, in the context of India, where training was not considered as an important

and critical element for improvement in work, the focus has now shifted to training, which is seen in the increased investment made by Indian public and private sector in the area of training [9]. It therefore becomes important to see if the investment is going in the right direction and whether training programs are successful in meeting the set objectives. The impact of training is essential to be assessed in order to make informed decisions about continuation of a particular training program. The importance of evaluating training programme is also highlighted as commented in a study [10] ‘evaluation of training programs is critical because, with the lack of evaluation, organizations have no good way to know whether training dollars (or pounds, francs or Deutschmarks) are being spent wisely. However, there is a lack of research on managerial training effectiveness in Indian context as majority of the studies are conducted in developed countries [11], [12].

Time is the utmost precious and non-renewable resource today. It is particularly important that managers and executives understand and learn the optimum utilization of this resource, especially in the present era where the pace of change is fast and they need to keep up with their work commitments. Like for other skills, managers can be trained on effective time management skills as well. Such trainings are vital for managers and must be assessed for its value and usefulness. Time management skills gained popularity in early 1970s. Since then several studies are published on the time management strategies used by managers, however, there have been few studies on the evaluation of time management trainings. Given the fact that training plays a critical role in enhancing managerial skills [13], the role of time management training must be assessed.

Therefore, to bridge the aforementioned gaps, the present study is undertaken to evaluate the effectiveness of managerial training and assess the predictive success factors of time management training. In addition, it also evaluates ‘learning’ which is relatively neglected in the literature but it is a significant component for evaluating training effectiveness.

## 2. Literature Review

Training evaluation is a process of examining the training to demonstrate whether the objectives were met in an effective and efficient way. A growing body of literature on training evaluation indicates a strong relation among training variables established through various training evaluation models. Evaluation can be done with qualitative and quantitative methods, to compare the primary objectives with the real program outcomes [14]. A

variety of models for training evaluation are found in the literature and the most extensively used framework for evaluation is the Kirkpatrick framework (1960) with four levels of evaluation depicted in Figure 1. Literature suggests that a variety of training programs have been evaluated using the Kirkpatrick framework. For example, a study evaluated communication skills training with Kirkpatrick framework [15], another study assessed the simulation skills training for medical students [16]. While Kirkpatrick framework was also applied to study the crew management training in aviation industry [17] and recently the effectiveness of nurse’s training was assessed with Kirkpatrick’s Model [18].



Figure 1. Simplified version of Kirkpatrick’s framework

The Kirkpatrick framework is widely used, yet it is not free from criticism, many authors claimed that the Kirkpatrick model represents only a taxonomy of interventions and cannot be called a model. Moreover, adding a fifth level to the original four-level framework, researchers have argued that Kirkpatrick’s model was intended to evaluate training and not the other types of development events [19]. Working on the same lines, another model called CIRO, representing four-level framework, Context, Input, Reaction, and Outcome was introduced [20]. Later, Phillips’s five-level framework gained popularity as Phillips’s framework added a fifth level, ROI (return on investment) to the existing four levels of Kirkpatrick framework. Therefore, all the existing models of training evaluations are inspired by and derived from the Kirkpatrick framework.

Substantial evidence in the existing literature suggests the paramount importance of evaluating any training program, as it is noted that ‘evaluation is an integral part of training’ in a study [21]. At the same time, executing training evaluation possess a challenge to organizations and HRD professionals as “there seems to be widespread agreement with the proposition that evaluation is the least well conducted aspect of all training activities” [22]. Studies suggest that training evaluation should be done at various levels to assess the actual impact of training.

As suggested, Kirkpatrick four-level framework has become the basis for other evaluation models. However, it remains the most admired framework among researchers and practitioners. The framework has four levels of assessment; Reaction, Learning, Behavior and Performance. Past studies also suggest a logical linkage and relationships between the different levels [23]. For example, a strong association was found between learning and job performance (Levels 2 and 3) and strong associations among reaction (Level 1) measures of enjoyment, training usefulness, and self-motivation to transfer and learning (Level 2) were discovered [24]. These connections represent the importance of conducting and evaluating the training programs. Thus, it is not only important to allocate a good percentage of budget for training but at the same time, it is essential to evaluate them.

Following the Kirkpatrick model and bridging the identified gaps found in the literature related to training evaluation, this study intends to measure the training effectiveness in the form of Satisfaction (reaction) and Learning (change in knowledge).

#### ***Level 1: Satisfaction with Training (reaction)***

In training evaluation, the reaction and satisfaction of trainees is certainly one of the key factors in deciding about the future extension of training programmes. However, according to a researcher, “initial receptivity provides a good atmosphere for learning the material in the instructional program, that does not necessarily cause high levels of learning” [25]. Assessing the overall satisfaction of trainees and their perception about a training program would serve as level 1 of training evaluation. Items were adapted to measure the trainees’ satisfaction, their attitude towards training and how much they liked it. In addition to overall satisfaction, the study also assessed the role of training environment, training components, training usefulness, practical orientation and trainer’s performance in increasing the satisfaction level and thereby enhancing training effectiveness.

#### ***Level 2: Learning (change in knowledge)***

Learning represents to what extent the knowledge of trainees has been increased because of their participation in the training. This measure serves as level 2 of the evaluation process. “The most fundamental issue of evaluation is whether trainees

have learned the material covered in training” [26]. Learning measures were assessed twice for every participant: before training (pre-test) and after training on the last day at the end of the program (post-test). The positive difference between pre-test and post-tests were taken as indication of an increase in knowledge. This study assesses the changes from before to after a program as a measure of learning.

Past studies have identified various factors associated with training effectiveness, however, no consensus has been found on these factors in the literature. One of the important factors is trainer’s performance during training. Studies suggest that trainer plays a critical role in making any training program a success. Similarly, the perception of trainees on the usefulness of any training program might predict its effectiveness [27]. Other factors identified are training environment [28], training component and practical orientation of training [29]. The condition under which trainees get training are significant in influencing the learning and transfer of training. Thus, assessing these factors is considered as elementary to evaluate training effectiveness. Therefore, following hypotheses will be tested in the present study:

- H1. The training environment has a positive influence on training effectiveness (in terms of satisfaction, Level 1).
- H2. The training components have a positive influence on training effectiveness (Level 1).
- H3. Training usefulness has a positive influence on training effectiveness (Level 1).
- H4. The practical orientation has a positive influence on training effectiveness (Level 1).
- H5. The role of trainer has a positive influence on training effectiveness (Level 1).
- H6. Training program was effective in increasing the knowledge of participants (in terms of learning, Level 2)

### **3. Methodology**

To test the hypotheses, the present study aims to evaluate training effectiveness at twofold levels, first in terms of trainee reaction and satisfaction, second in the form of the learning. The training under study is ‘Time management training’ conducted by a State Institute in India. The average program duration was 60 hours with participants from different departments of public organizations. A total of 145 employees were nominated for the training programme.

The researcher uses descriptive method of research in the study. According to previous studies, descriptive researches are valuable in providing facts on which scientific judgment may be passed; providing practices behavior, methods and procedures; playing a large part in the development of instruments of many things; and formulating policies in the local, national and international level. Surveys are most often used for descriptive purposes. They are typically administered via self-report, in-person, or telephone. Survey questionnaires were developed on the bases of previously validated instruments [30], [31]. A set of two questionnaires were distributed for data collection. All fields in the questionnaire were measured using five point Likert scale ranging from one to five points (5 being the most and 1 the least). Survey questionnaires were distributed to all 145 participants out of whom 136 participants completed the questionnaire. These participants were full time employees aged between 40-45 years and were middle-level management positions.

Data analysis was performed using SPSS AMOS 25.0. Confirmatory factor analysis was applied to check the validity of constructs (Figure 2.). Reliability analysis indicated a Cronbach's alpha of 0.62, which is considered acceptable since it is above the threshold level of 0.6. Hence, the items in the questionnaire can be considered well designed and trust worthy. Further, correlation and regression analysis is applied to test the hypotheses.

#### 4. Results and Discussion

The result of training was assessed using cross-sectional study with satisfaction surveys and pre and post training test to examine the learning, which is relatively neglected, but significant for evaluating training effectiveness. The training by lecturing is not sufficient; it is considered only the bare bones. Lecturing would correspond to the first step in training "Know". The trainer should also "Show" the participants how to transfer knowledge into application. In order to achieve the set objectives, time management training used combination of various methods like practice sessions, case studies and video shows etc. The findings show that this pedagogy was successful in increasing the awareness about the subject. The participant's response to the survey questions depicts a heightened awareness and knowledge about the different techniques to manage time well. The experience sharing and interactive sessions were rated as most useful because they shared the real-life cases and taught how to solve the problems in the field.

Table 1. presents the mean, standard deviation and inter-correlations among variables of this study. The finding suggests that 'practical orientation' variable was reported to be the highest (M=4.32), followed by training effectiveness (M=4.29) and training usefulness (M=4.11). Moreover, the participants also considered training environment to be important.

Chi-Square = 529
Df = 177
CMIN/df = 2.99
CFI = 0.89
TLI = 0.96
RMSEA = 0.08

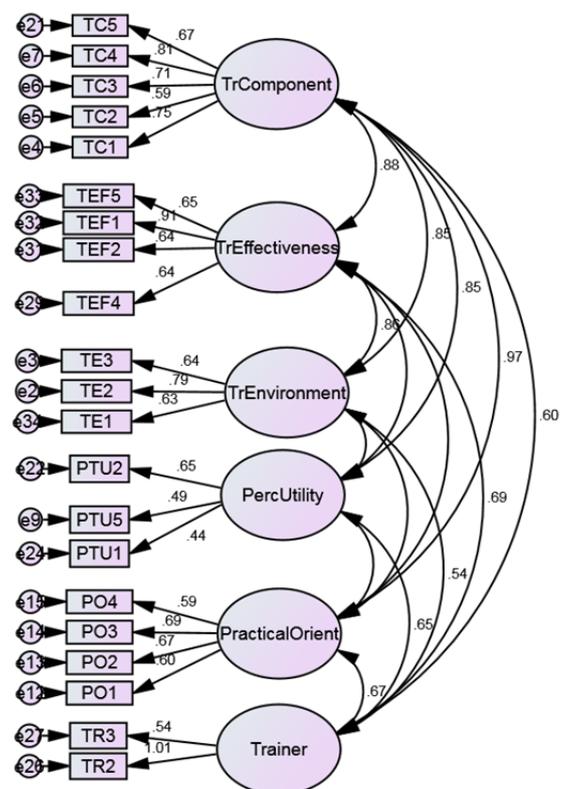


Figure 2. Confirmatory factor analysis

The results of correlation analysis show moderate to high degree of positive relationship among all the constructs of study ( $r=0.38$ ;  $p<0.05$  and  $r=0.69$ ;  $p<0.001$ ). Further, training effectiveness was positively and significantly associated with all variables. However, the strongest correlation of training effectiveness was found to be with 'Practical orientation' ( $r=0.676$ ;  $p<0.001$ ) and the least degree of correlation was with 'training environment' ( $r=0.480$ ;  $p<0.001$ ). Further, the 'role of trainer' was also found to be strongly related to training effectiveness ( $r=0.635$ ;  $p<0.001$ ). Therefore, the correlation analysis results provide initial support for H1, H2, H3 H4 and H5.

Table 1. The value of Mean, Standard Deviation Reliabilities and Inter-correlations among variables

Variable	Mean	SD	1	2	3	4	5	6
Training environment	4.05	0.89	(0.79)					
Training components	3.87	1.12	.537*	(0.75)				
Training usefulness	4.11	1.07	.385**	.612*	(0.58)			
Practical orientation	4.32	0.87	.672*	.680*	.490*	(0.73)		
Role of Trainer	3.94	1.31	.608*	.473*	.420*	.687*	(0.67)	
Training effectiveness	4.29	1.24	.480*	.510*	.570*	.676*	.635*	(0.80)

N=136. Reliabilities are presented on the diagonal. \* p < 0.001; \*\*p<0.05

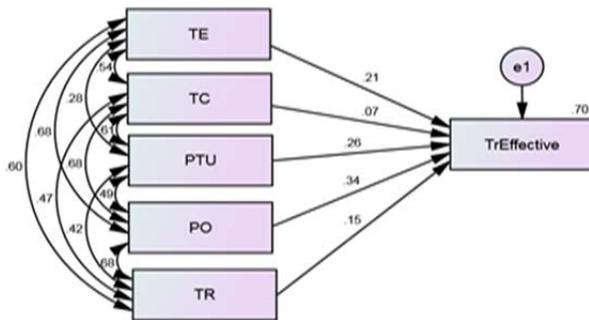


Figure 3. Regression estimates

Further, the regression analysis was carried out to assess the predictive variables and their value. Table 2. and Figure 3. display the results of regression analysis; standardized regression estimates are depicted. Using AMOS, the level of significance is based on CR (critical ratio) of the regression estimates [32]. For all variables, the CR values are greater than 2.58, except one (Training component). Therefore, the variables which predict training effectiveness are: Training environment ( $\beta=0.213$ ,  $CR=2.72$ ), Training usefulness ( $\beta=0.258$ ,  $CR=3.23$ ), Practical orientation ( $\beta=0.344$ ,  $CR=3.33$ ) and Role of Trainer ( $\beta=0.153$ ,  $CR=2.77$ ). However, training component variable was not found to be significant in influencing training effectiveness, therefore, H2 was not supported. Moreover, Training environment, Training usefulness, Practical orientation and Role of Trainer account for 69% of the variance in training effectiveness. Thus, evidence supports H1, H3, H4 and H5. Hence, all except ‘Training Component’, were established significant predictors of training effectiveness.

Interestingly, ‘practical orientation’ accounts for the maximum variance in training effectiveness (34.4%). As the training subject was more on skill development and required to be more practical in approach, the trainees were highly satisfied with training sessions which were more practice based like, yoga & meditation (to be more calm and organized) and time management matrix. For this category of training, it was essential to train employees on how to identify the time wasters and then adopting appropriate strategy to deal with them so that their work does not get affected.

Table 2. Regression estimates

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	Remarks
	$\beta$	Standard Error	$\beta$	CR		
Training environment	0.183	0.076	0.213	2.72	0.01	H1 Accepted
Training components	0.048	0.069	0.075	1.67	0.08	H2 Rejected
Training usefulness	0.243	0.075	0.258	3.23	0.001	H3 Accepted
Practical orientation	0.246	0.076	0.344	3.33	0.001	H4 Accepted
Role of Trainer	0.146	0.084	0.153	2.77	0.048	H5 Accepted

Note: Dependent variable: Training effectiveness

Note: N=136; The CR is recommended to be beyond +2.58 significant at  $p<0.05$  level. H2 is rejected as the estimates were not significant at  $p<0.05$ .

In order to measure the increase in learning after the training, a set of pre and post tests were distributed before and after the training session to measure the difference in learning. Interesting findings illustrate a change in the knowledge of trainees as a result of attending the training program. The learning score of participants increased in the post-test analysis, as the participant’s response depicts a heightened awareness and knowledge about the different techniques of time management. The result of data analysis shows a significant increase in the level of learning (change in knowledge) when

compared with the learning score conducted before training. The average shift in the knowledge gained can be assessed through change in Post-test score and Pre-test scores of training. Participants reported an estimate of 57 percent increase in knowledge. Therefore, the research also verifies that learning has taken place during training as supported by the findings. A positive change in learning was observed, therefore, H6 is accepted.

In summary, the training on Time management was evaluated on two levels (satisfaction and learning among trainees) and found to be effective at both the levels. H1 is accepted which stated that 'training environment is positively related to training effectiveness'. Similarly, evidence is found to support H2, and H4 accepting the association of training usefulness and practical orientation with training effectiveness. The result for H3 test, which is about 'trainer's performance affects overall success of training effectiveness was supported as seen in the results of correlation and regression analysis. As highlighted in the previous studies, trainer's attitude and presence impacts the trainees' perceptions and overall training effectiveness. However, training component was not found to have any impact on the training effectiveness. The results of regression analysis confirm that training environment, training usefulness, practical orientation and role of trainer were the significant predictive factors and accounted for 69% of variance in training effectiveness. Finally, H6 also found evidence of support, as the training program was successful in increasing the knowledge of participants (measured in terms of Learning).

The time management training was considered as the need of the hour and focused on developing the cognitive and practical skills in employees. The present training was successful in achieving the objectives and increasing the overall individual performance as they were able to manage time better. This echoes with the findings of previous research studies conducted on time management training [33], [34].

## 5. Conclusion

The paper concludes that 'time management' training programme was successful and effective in meeting its objectives. The findings suggest that the training was significantly successful, indicating a high level of trainee effectiveness which is at both levels; satisfaction and learning. The training success was mainly associated with four factors; practical orientation, training environment, role of trainer, and training usefulness. Evidence was found for a significant improvement in the learning among trainees as well. Strong managerial and practical implications can be drawn from this study. First, the

managerial trainings are vital for Indian managers, fostering the onus on Indian organizations to devote time and financial resources for such trainings to increase the efficiency of the managers. Second, the results of such training effectiveness should be announced to all employees in order to motivate employees by spreading the positive results of a training. Third, an in-house culture should be developed to create a learning environment and foster the organizational support.

In addition to the implications, the study confirms that 'time management training' can be evaluated at two levels, however, the immediate reaction of trainees might not be the indicator of actual learning. The limitation of this study has been the reliance on the self-report data. Therefore, future studies in similar area can use the interviews and use a triangulation to validate the results.

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