

## LESSON 32

### Assessing the ROI of training

Friends,

*As rightly said If people really are your greatest asset, isn't it time to look at your training programmes as investments in your organisation's human capital and not just as an expense?*

**In this Lesson we are going to scan through the cost effectiveness of training or the returns offered from training.**

We will quickly review the argument the case for return on investment (ROI) as a primary tool for forecasting and evaluating the benefits of training and understand the steps involved in conducting an ROI analysis.

#### A NOTE ABOUT ROI (RETURN ON INVESTMENT) IN TRAINING

Attempting financial ROI assessment of training is a controversial issue. It's a difficult task to do in absolute terms due to the many aspects to be taken into account, some of which are very difficult to quantify at all, let alone to define in precise financial terms. Investment - the cost - in training may be easier to identify, but the benefits - the return - are notoriously tricky to pin down. What value do you place on improved morale? Reduced stress levels? Longer careers? Better qualified staff? Improved time management? All of these can be benefits - returns - on training investment. Attaching a value and relating this to a single cause, ie, training, is often impossible. At best therefore, many training ROI assessments are necessarily 'best estimates'.

If ROI-type measures are required in areas where reliable financial assessment is not possible, it's advisable to agree a 'best possible' approach, or a 'notional indicator' **and then ensure this is used consistently from occasion to occasion**, year on year, course to course, allowing at least a comparison of like with like to be made, and trends to be spotted, even if financial data is not absolutely accurate.

In the absence of absolutely quantifiable data, find something that will provide a useful if notional indication. For example, after training sales people, the **increased number and value of new sales made** is an indicator of sorts. After motivational or team-building training, **reduced absentee rates** would be an expected output. After an extensive management development programme, the **increase in internal management promotions** would be a measurable return. Find something to measure, rather than say it can't be done at all, but be pragmatic and limit the time and resource spent according to the accuracy and reliability of the input and output data. Also, refer to the very original Training Needs Analysis that prompted the training itself - what were the business

performance factors that the training sought to improve? Use these original drivers to measure and relate to organizational return achieved.

The problems in assessing ROI are more challenging in public and non-profit-making organizations - government departments, charities, voluntary bodies, etc. ROI assessment in these environments can be so difficult as to be insurmountable, so that the organization remains satisfied with general approximations or vague comparisons, or accepts wider forms of justification for the training without invoking detailed costing.

None of this is to say that cost- and value-effectiveness assessment should not be attempted. At the very least, direct costs must be controlled within agreed budgets, and if it is possible, attempts at more detailed returns should be made.

It may be of some consolation to know that Jack Philips, an American ROI 'guru', recently commented about training ROI: "Organisations should be considering implementing ROI impact studies very selectively on only 5 to 10 per cent of their training programme, otherwise it becomes incredibly expensive and resource intensive."

To understand ROI the Lesson will covers following Contents in detail

**Measuring the success of training**  
**Forecasting and measuring costs**  
**Forecasting and measuring benefits**  
**Calculating return on investment**  
**Making ROI work for you**

**Measuring the success of training**

The evaluation of training, like motherhood and apple pie, is inherently a good thing. But, because short term priorities always crowd out their longer term competitors, it's typically something we plan to do better next year - after all, we've got away with it so far, so another year won't hurt!

And even if training evaluation is undertaken, it is usually at the easiest and lowest level - the measurement of student reactions through happy sheets. Reactions are important and the happy sheets serve a purpose, but will they be enough to back up your arguments when there is a need for a greater investment in training, when major changes need to be made in direction, when there is stiffer competition for resources, when times get tough?

***Why evaluate training?***

Let's summarise the main arguments for better evaluation of training:

*To validate training as a business tool*

Training is one of many actions that an organisation can take to improve its performance and profitability. Only if training is properly evaluated can it be compared against these other methods and expect, therefore, to be selected either in preference to or in combination with other methods.

### *To justify the costs incurred in training*

We all know that when money is tight, training budgets are amongst the first to be sacrificed. Only by thorough, quantitative analysis can training departments make the case necessary to resist these cuts.

### *To help improve the design of training*

Training programmes should be continuously improved to provide better value and increased benefits for an organisation. Without formal evaluation, the basis for changes can only be subjective.

### *To help in selecting training methods*

These days there are many alternative approaches available to training departments, including a variety of classroom, on-job and self-study methods. Using comparative evaluation techniques, organisations can make rational decisions about the methods to employ.

### ***Criteria for measuring training success***

The form of evaluation that we undertake is determined by the criteria that we choose, or are told to use, to measure success:

#### *Numbers*

One way of measuring the success of training is the good old ‘bums on seats’. Although by no means a true measure of the effectiveness of training, student numbers do reflect the fact that the training is addressing a need and that the design and methodology is meeting expectations.

#### *Direct cost*

Direct costs are those costs that are incurred directly as a result of a training programme – external design and development, consultancy fees, travel expenses and so on. If the programme did not take place, these costs would not be incurred. Many organisations only ever take direct costs into consideration when measuring training costs.

#### *Indirect cost*

Indirect costs are costs that may or may not be directly associated with a training event, but which would have been incurred anyway, whether or not the training took place. Examples are salaries of in-house trainers and students and the costs of rooms and equipment. Any analysis of the true costs of training will include both direct and indirect costs.

#### *Efficiency*

Efficiency is a measure of the amount of learning achieved relative to the amount of effort put in. In practical terms this means the amount of time it takes to complete a piece of training. Efficiency has a direct relation to cost – the more efficient a training method is, the less it will cost.

### *Performance to schedule*

Sometimes with a training programme, 'time is of the essence' – the training needs to be completed by a given date if a particular business objective is to be achieved. In these situations, the extent to which a training programme performs to schedule is a critical measure of success.

### *Income received*

If you are a training provider operating externally to a client organisation, then income received is a vital measure of your success. It's the financial equivalent of 'bums on seats' – the more courses you run or places you fill, the greater the benefit. Some internal training providers may also cross-charge their clients, although, because this correspondingly increases the cost to the organisation, this is not regarded as a benefit when assessing return on investment.

### *The extent to which trainees mix*

A justification often made for training, particularly group events, is that it provides an opportunity for students who work in different departments or regions to meet with each other, share experiences and make contacts. Because this is a valued outcome of training, it needs to be considered when comparing training methods. Similarly, some training may be regarded as a perk, a benefit of some value, even if this is not directly related to learning.

### *Reactions*

Reactions are what you measure with the 'happy sheet'. Reactions are important because, if students react negatively to your courses, they are less likely to transfer what they learned to their work and more likely to give bad reports to their peers, leading in turn to lower student numbers.

### *Learning*

Learning, in terms of new or improved skills, knowledge and attitudes, is the primary aim of a training event. Learning can be measured objectively using a test or exam or some form of assessed exercise. If a student has to achieve a certain level of learning to obtain a 'pass mark', then the number of passes may be used as an evaluation measure. Another important aspect of learning is the degree of retention – how much of the learning has stuck after the course is over.

### *Behaviour change*

If a student has learned something from a course, you hope that this will be reflected in their behaviour on the job. If a student employs what they have learned appropriately, then their work behaviour will meet desired criteria. Behaviour can be measured through observation or, in some cases, through some automated means. To assess behaviour change requires that the measurements are taken before and after the training.

### *Performance change*

If, as a result of training, students are using appropriate behaviours on the job, then you would expect that to have a positive impact on performance. A wide variety of indicators

can be employed to measure the impact of training on performance – numbers of complaints, sales made, output per hour and so on. It is hard to be sure that it is training that has made the difference without making comparisons to a control group – a group of employees who have not been through the training.

### ***Return on investment as a measure***

Return on investment (ROI) is a measure of the monetary benefits obtained by an organisation over a specified time period in return for a given investment in a training programme. Looking at it another way, ROI is the extent to which the benefits (outputs) of training exceed the costs (inputs).

ROI can be used both to justify a planned investment and to evaluate the extent to which the desired return was achieved. However, it can not measure all aspects of training success:

- whether students liked the training or not
- the numbers of students participating in the training
- the extent to which students' personal objectives were achieved

### ***The process of calculating ROI***

To calculate ROI you must first make estimates or obtain measurements of the costs and benefits associated with a training programme. As you will see, the calculation of ROI is then a relatively simple process. Let's start with the costs ...

Forecasting and measuring costs

### ***Design and development costs***

The first category of cost to be considered is the design and development of the training programme, whether this comprises classroom events, self-study materials, simple coaching sessions or some combination. You will need to consider:

- internal days of design and development
- costs of external designers and developers
- other direct design and development costs (purchase of copyrights, travel, expenses, etc.)
- outright purchase of off-the-shelf materials

### ***Promotional costs***

Most organisations devote effort to promoting their training programmes. This second category takes promotional costs into account:

- internal days of promotional activity
- costs of external agencies
- other direct costs of promotion (posters, brochures, etc.)

### ***Administration costs***

An allowance must be made for the time taken by the training department in administrating the training programme. This will typically be a factor of the number of students:

- hours of administration required per student
- direct administration costs per student (joining materials, registration fees, etc.)

### ***Faculty costs***

The next category of costs relates to the delivery of the training, whether this is mediated by faculty (tutors, instructors, coaches, etc.) or is self-administered (workbooks, CBT, online training, etc.). Let's start with the information needed to calculate faculty costs:

- the number of students who will be going through the programme
- hours of group training (whether classroom-based or delivered in real time, online)
- hours of one-to-one training (typically face-to-face, but could conceivably be conducted by telephone, video conferencing link or in real-time, online)
- hours of self-study training
- additional faculty hours (preparation time, the time needed to review or mark submitted work or the time needed to correspond by email or bulletin boards with online students)
- faculty expenses (travel, accommodation, subsistence, etc.).

### ***Materials***

Then there's the cost of materials:

- cost per student of training materials (books, manuals, consumables, etc.)
- license cost per student for use off-the-shelf materials

### ***Facilities***

You will also need to allow for the cost of your training facilities, whether these are internal or external. Make sure to include the rental or notional internal cost of the following:

- training rooms
- open learning / self-study rooms
- equipment used

### ***Student costs***

Probably the most significant delivery cost relates to the students themselves. It is only necessary to charge a student's cost against the programme if training is undertaken in time that would otherwise be productive and paid for, so you only need to estimate the amount of travel and training that is undertaken in productive work time, i.e. not in slack time, breaks or outside work hours.

When an employee goes through a training programme in work time, the organisation is not only having to pay that person's payroll costs, they are also losing the opportunity for that person to add value to the organisation. When a salesperson is on a course, they are not bringing in new business. Similarly, a production line worker is not creating products, a researcher is not developing new ideas and an accountant is not finding ways to save money.

If an employee can be easily replaced while they are undergoing training, then there is no lost opportunity – the cost is simply the employee's payroll costs. In many cases, however, it is simply not practical to obtain a suitable replacement, so the output that the employee would have generated in the time that they are receiving training will be lost. In this case, the true cost of the employee being trained is the lost opportunity – the 'opportunity cost'. The calculation of opportunity costs goes beyond the scope of this article, but, suffice to say, they are greater than an employee's payroll costs and need to be considered in any serious evaluation of costs.

Finally, don't forget to include any direct student expenses - travel, accommodation and subsistence.

### ***Evaluation costs***

You also need to make an allowance for the time spent evaluating the training, whether this is an ROI analysis or some other method.

### **Forecasting and measuring benefits**

The financial benefits of training can not be measured in terms of student reactions, nor the amount of learning that has been achieved; not even the extent to which behaviour may have changed. The real benefits come from improved performance – traditionally the hardest training outcome to forecast or measure.

So, what do we do when faced with this difficulty – back away and focus our evaluation efforts on easier measures? No, we do the very best we can, because all other measures fail to reflect the financial reality that training must pay off – in hard cash.

If it is any comfort, trainers are not alone in finding it difficult to calculate the benefits of what they do. Is it any easier to predict the benefits to be obtained from launching a new product, running an advertising campaign, initiating a research programme or changing the pay and benefits policy?

Let's look at the major categories of benefits. Note that these categories are not necessarily mutually exclusive - in some respects they provide alternative ways of looking at the same underlying benefit. Because of this, you should be extremely careful not to include the same basic benefit under more than one of these headings.

### ***Labour savings***

Labour savings occur where, as a result of the training, less effort is needed to achieve

current levels of output. We have to assume that savings are realised by a reduction in the amount of labour applied to a particular job, *not* by utilising the newly available time to achieve further output on the same job.

Labour savings will only be realised if the labour applied to a job can really be reduced, whether this comes as a result of redundancies, transfers of staff to new positions or re-allocations of work. If the time savings simply result in more slack, then there is no saving.

Examples of labour savings include:

- reduced duplication of effort
- less time spent correcting mistakes
- faster access to information

### ***Productivity increases***

Productivity increases occur where, as a result of training, additional output can be achieved with the same level of effort. This implies that the organisation requires or desires more output in this particular area. If it does not, then it might be better to express the benefit as a cost saving.

Examples of productivity increases include:

- improved methodologies reducing the effort required
- higher levels of skill leading to faster work
- higher levels of motivation leading to increased effort

### ***Other cost savings***

Cost savings can be achieved in a variety of ways, not just through savings in labour, and this category allows you to take account of these. Examples include:

- fewer machine breakdowns, resulting in lower maintenance costs
- lower staff turnover, reflected in lower recruitment and training costs
- a reduction in bad debts

### ***Other income generation***

In some job positions, it may be possible for new income to be generated as a direct result of training. Sometimes this can be satisfactorily recorded as a productivity increase, but there will be times when a more direct and specific analysis is required.

Make sure that you offset from the income any variable costs that are incurred as a result – it is the net contribution that you are looking for.

Examples of other income include:

- a higher success rate in winning competitive pitches, leading to increased sales



- sales referrals made by non-sales staff
- new product ideas leading to successful product launches

### Calculating return on investment

Return on investment tells you the percentage return you have made over a specified period as a result of investing in a training programme. On the assumption that benefits will continue to accrue some time after the training, then the period that you specify is critical to the ROI figure you will obtain. You may like to specify a period that fits in well with your organisation's planning cycle – perhaps a year or two years. On the other hand, you may wish to calculate the period to correspond to the lifetime of the benefit, in which case you will need to know how long the average student stays in a position in which they can continue to apply the knowledge and skills being taught.

It is relatively simple to calculate return on investment:

$$\% \text{ ROI} = (\text{benefits} / \text{costs}) \times 100$$

### *Payback period*

Another way at looking at ROI, is to calculate how many months it will take before the benefits of the training match the costs and the training pays for itself. This is called the payback period:

$$\text{payback period} = \text{costs} / \text{monthly benefits}$$

Payback period is a powerful measure. If the figure is relatively low – perhaps only a few months – then management will be that much more encouraged to make the training investment. As a measure, it also has the advantage of not requiring an arbitrary benefit period to be specified.

Here's an example of the final results for a ROI analysis:

Duration of training	33 hrs
Estimated student numbers	750
Period over which benefits are calculated	12 months
<b>Costs</b>	<b>Rs.</b>
Design and development	40,930
Promotion	4,744
Administration	12,713
Faculty	86,250
Materials	15,000
Facilities	40,500
Students	553,156

Evaluation	872
<b>Total cost</b>	754,165
<b><i>Benefits</i></b>	
Labour savings	241,071
Productivity increases	675,000
Other cost savings	161,250
Other income generation	0
<b>Total benefits</b>	1,077,321
<b>Return on investment</b>	143%
<b>Payback period</b>	8 months

### ***Simplifying the process***

If you've been following through all of these steps, then you'll have realised just how many calculations are involved in conducting a thorough analysis. What's more, when you start to look at areas such as opportunity costs and productivity benefits, then there are some quite tricky concepts involved as 'Training ROI Calculator'.

### **Making ROI work for you**

It has become something of a cliché for senior management to claim that 'people are our greatest asset'. Yet, much to the dismay of trainers, the effort they put in to developing this 'human capital' continues to be seen as an expense and not as an investment. It's time to turn this around. Start to analyse your training programmes as if they were capital investments - using techniques like ROI - and senior management may start to change their attitude to training. And at a time when there are so many exciting new developments in training - not least online learning - and a possible recession ahead, you're going to need their co-operation.

## Cost effectiveness

Some assessment of the cost effectiveness of training should also be attempted, for its economic justification. This should be done in collaboration with the agencies to help to work out means of comparing the cost of training and its effectiveness. Assessing the cost of training off the job, whether it is carried out within an agency or externally, is not difficult; on the job training costs are not so easily identified but if the true costs of training are to be assessed, an attempt can be made by identifying the elements which make up the cost of training.

Assessing the cost effectiveness of training is practicable in cases where specific skills or techniques have been taught and are immediately put to use. These measures of efficiency will also apply to skill training.

Valuations thus made may then be set against the cost of training, assessed by cost analysis techniques. There are some forms of training which are required on both human and economic grounds, but they should still be subject to analysis to establish the cost.

Methods of measuring participant's progress are:

- i) Observations.
- ii) Simple tools for cross-checks.
- iii) Check list to ensure observance of different aspects of training.
- iv) Rating scales which allow measurement of opinion and feeling,
- v) Content analysis of written and spoken words serves to measure understanding.
- vi) Analysis of simulation sessions indicates the degree of skills with which the participants handle situations.

### *Constraints of evaluation*

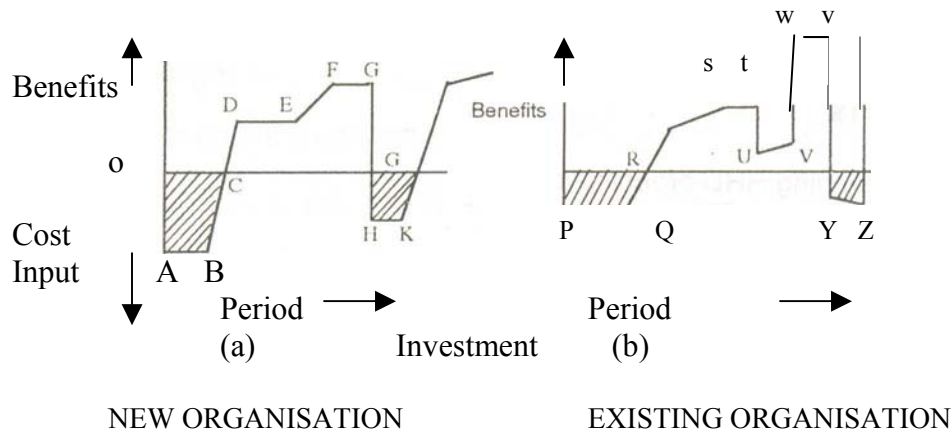
Despite the fact that an emphasis is now being laid on the importance of evaluation of training, there are built-in constraints in this process. Some of these are:

- i) Trainee is in a psychological mood to leave.
- ii) He may be mindful of the problems he is going to face when he goes back home to the same background from which he had come.
- iii) Sometimes reactions of the participants may be influenced by other non-academic considerations such as facilities provided.
- iv) Since it is time for the group to part, they may become emotional.
- v) There are various complex factors the interaction of which complicates the process further.
- vi) There is no foolproof and objective system or tools of evaluation.

The trainers and evaluators have, therefore, to construct their evaluation procedure and tools very carefully and objectively.

## JUSTIFICATION ON INVESTMENT:

The investment on T & D activities is a long term investment which cannot be easily justified. However the contribution of the activities in terms of change achieved and impact on the organisation can be projected in the following graph.



In graph (a) OA represents cost on T & D for new employees for a period of AS, SCD shows the gains to organisation in terms of job performance. By gaining this experience now the employees learn work and therefore the gain and the investment equalises upto DE and so the straight line. EF represents the benefits of the learning by doing experience and FH again learning by doing. After learning has achieved the saturation at G the retraining may perhaps be required which may call for taking away the employees from work place and have only lost & no gain, the GH will show again visible investment & so the gain likewise the cycle goes on repeating. The positive difference between benefits and investment is the only healthy sign for the organization.

In the case of existing/running unit the HRD activities may cost a little as compared to the new establishment i.e. every year budget may be less than the first investment at the start of activities. If we look at the graph (b) we find that OP is the investment which could be for improving skills, knowledge and attitude of managers, supervisors or every other employees QRS shows continuous improvement due to HRD activities and organisational culture improvement and ST shows improvement in experience through learning by doing for a short period of initiated challenges. TU represents the investments on further improving the performance but this may not necessitate the training to be away from his routine duties for longer period and hence the curve is above the datum line. At point X again there may be necessity for retraining or change of job which may cost more to the organisation.

## ACTIVITY AND ASSIGNMENT

### CASE

#### CASE . COST-BENEFIT ANALYSIS OF TRAINING PROGRAMME

The Chief Personnel Manager, of XYZ Passenger Road Transport Corporation had problems in convincing top management on the desirability of a formal training programme for drivers. The XYZ Passenger Road Transport Corporation is a state owned undertaking. It has depots, workshops in all central places of the State. It runs the buses throughout the state all the 24 hours and 365 days. In case of breakdown of the bus on the road, the driver should not attempt to repair the bus. He should inform the Depot Manager of the nearest depot. The Depot Manager arranges the repairers immediately. Meanwhile, the conductor has to arrange to send the passengers by another bus. It takes at least on full day to bring the bus to the normal condition even

I} in case of minor repairs which can normally be done by a driver. Both the driver and the conductor concerned should attend the work during breakdown period. The bus "" has to go to the destiny without any passengers after repair.

The Chief Personnel Manager has an idea that if the drivers are trained in minor repair activities many of the problems cited above could be avoided; (the cause of . inconvenience to the passengers, the cost of repairs, the cost of breakdown including II the opportunity revenue of the bus, cost of conductors and drivers can be minimised). But the top management has been arguing that if the drivers are asked to do the repair work, they may ask for the wage increase by Rs. 50 per month. . The Chief Personnel Manager supplied the following data to the top management to decide upon providing training to drivers:

1. Average number of breakdowns per bus per month:  
Major 0.35  
Minor 3.50
2. Average number of days lost per bus per month:  
Major 1.25  
Minor 5.75
3. Average number of drivers per bus per month: 2
4. Average cost of driver per month Rs 1,150
5. Proposed wage increase per driver per month  
(if the drivers are asked to do minor repair work) Rs 50
6. Average cost of training per driver during entire  
service (including cost of absence of driver on  
duty during training period) Rs 100
7. Average service of each driver years 25
8. Average net profit per bus per day Rs 200
9. Average cost of outstation allowance to driver per day

(this should be paid during breakdown period also)	Rs	15
10. Average cost of outstation allowance to conductor per day (this should be paid during breakdown period also)	Rs	15
11. Average number of conductors per bus per month		2
12. Average cost of conductor per month	Rs	1050

### **QUESTIONS**

1. Do the factors seem to justify the training for drivers?
2. Are there any other matters to be considered in making the decision about training?
3. Calculate the cost-benefit analysis of training based on the data supplied by the Chief Personnel Manager.
4. How do you react to the proposal of the Chief Personnel Manager if you were the Managing Director of the Corporation.