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Course On

Human Resource Development

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Lecture 20: HRD Process – II (Contd.)

Okay so welcome to the last session of the fifth session of the fourth week lecture and here we are going to discuss about the impact of HRD program.

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Session 5

HRD Process: Measuring the Impact of HRD Programmes

That how where going to major the impact of the HRD processes. We remember we talked about how to excess the needs then how to design and develop the program and then after that we talked about the delivery part. And then we looked at certain models which are used for evaluating the HR performance of the HRD activities. Now when you are going to major the performance of the HRD activities there are two ways that you can do it. One is that you are

going to measure it qualitatively to see what is the feedback of the people about the program the alertness other things and similarly you can also major it quantitatively in terms of change in the performance of the behavior.

Right and that is how some companies have started using its ROI model that is written on invest models. So they try to calculate the direct cost, indirect cost and then this is that what could what are the benefit that have been derived out of this program. It means the extent to which the change has been there in the behavior and performance of the people. So what we are going to discuss here is that how we are going to major the impact of HRD processes of the program or in the organization.

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HRD Program Assessment

- · HRD programs and training are investments in People
- Line managers often see HR and HRD as costs i.e., revenue users, not revenue producers
- Need to prove your worth to the organization

Source: Werner and DeSimone, 2006



So when we are talking about HRD program assessment basically what we are going to look at it that say ultimately any kind of program that we are going to offer in the name of HRD is basically is making certain investment to improve the learning and development of the people right so that they are better equip in terms of the competencies knowledge and skill to perform better on the job. Now in most cases you will find that organization is do not evaluate the performance in financial terms with what they do basically that they look at the feedback of the people then they get for some assessment two assessment centers to check with that the they have learn something or not. But many organizers do not bother to see the impact of this training in alter to see that with it they has been a transfer with that the people have change their behavior with that they improvement in the behavior of performance or not. And in with that that is being reflected in improve performance. Okay both qualitatively and quantitatively. You remember in factor model we started discussing about four levels that is the action okay then learning then behavior and finally performance. So if you look at learning and behavior which is to be major after gap of the sometime. When the people are ready to transform themselves by changing their behavior and performance and actually see whether there is a change in behavior their performance or not.

So this is a kind of investment at when you make an investment in learning and development activities of the people then we expect them to change the behavior and performance. Right so it is very important to assess the impact of these programs both qualitatively and quantitatively. There have been a number of measures that are used so the reason is that you have to prove your worth because many times will find the senior managers think that HR all activities on HRD is actually a cost.

Okay you are going to spent somebody on training activities, but it does not bring any change in the behavior in the performance. Okay so there is no impact and that is where HRD of professional so had to make it a point to ensure that it brings about a change in the behavior and the performance in concrete terms which is measurable and that is why there is any two measure the programs.

Right and that is how actually you try to see that is you are able to establish you are worked for the organization that you are doing something and then try to see that through people how you can make a difference in the growth and development of the organization. And if are able to do it. It means that you are able to prove your works.

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Two Basic Methods for Assessing Financial Impact

- · Evaluation of training costs
- · Utility analysis

Source: Werner and DeSimone, 2006



Now the two basic methods of accessing financial impact we remember we talked about qualitative measures, but now what we are going to discuss is that what is the weight through which we can measure it in concrete terms in your financial terms. So what we are going to discuss now is certain methods that are used to major it in financial terms. So what we do basically we try to look at the cost of benefit analysis that is the ROA model and it is return on investment model basically we try to evaluate the cost and benefits.

So first of all we try to evaluate the training cost so there could be different kind of costs associated with the training that you have to quantify and then you also look at the benefit and then you go for a cost benefit analysis. And the second one is utility analysis you see that how useful the training has here. Right so these are the two major important measures which have been used to assess the financial impact of any HRD program.

Now when we are talking about these two methods we will start discussing about the first one that how we are going to calculate the cost of benefit analysis in terms of identifying different cost associated with the training what are the benefits and say how much you have improved. Financially or in financial terms so far as training is concerned. (Refer Slide Time: 05:53)

Evaluation of Training Costs

- Cost-benefit analysis
 - Compares cost of training to benefits gained such as attitudes, reduction in accidents, reduction in employee sick-days, etc.
- Cost-effectiveness analysis
 - Focuses on increases in quality, reduction in scrap/rework, productivity, etc.

Source: Werner and DeSimone, 2006



Now how we do we go about evaluating training cost it depends upon a number of factors. Right so you have to calculate costs you also calculate benefits. Benefits could be in terms of change in the attitude reducing the act series reduction the sick days of the employees improving the quality of the product increasing the efficiency going or reducing the down time right so there could be a number of factors or mattresses that used in a HRD could be used to identify the benefits and then what you need to do is that you quantify them in mandatory terms in order to see that with it the training has at desirable effect on these outcomes of variables which are suppose to be measured.

Right ROI is nothing is, but you calculate the cost and benefit through which you are going to major it. Right and then you also go for cost effective analysis. Cost effective which means that with of they is anything certain things or reduction in certain things like increasing the quality, reduction the scrap, rework or productivity whatever it is so they are two ways you can do it first of all you see that how much benefit you have been able to get by doing certain things or increasing things or reducing certain things.

Reducing like down time, accidents, and turnover rates right and improving will be quality, efficiency and these kinds of things. Okay so these two are the major outcomes that could be used in cost of benefit analysis to see the extent to which returning has made a impact.

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Determining Return on Investment (ROI)

- Cost-benefit analysis process of determining the economic benefits of a training program using accounting methods that look at training costs and benefits.
- ROI should be limited only to certain training programs, because it can be costly.
- Return on investment = Results/Costs:

ROI =Benefits/ costs x 100



Now when we are going to evaluate training cost the most important major that I told you is written on investments. In previous lecture we also talked about return on investments and then we discussed what could with the various cost and what are the various benefits. Right so when we are talking about cost benefit analysis basically it is away to find out the benefits in mandatory terms of a training program.

Right and then you were using certain methods which are used in accounting and financial wise right, so cost benefit analysis basically uses a financial major economic majors or economic indicators to find out the economic benefits of a program and basically it is not only limited to training programs, but it could be applied to other programs, but in this context you are going to see that exclusively what is the impact of training on performance.

Right so you have to calculate cost which are exclusively related to training and the benefits which are due to training program only. Because improvement in the performance may be because of the technology also. So all other external factors have to be isolated so that you are in a position to calculate the costs associated to the training and the benefits which are only exclusively due to training. So that you need to isolate other factors or could need to control other factors. Okay so that you are able to major the effect in terms of ROI and you know that the formula that is used is return as results divided by cost multiplied by hundred.

So you get 18% systems right so benefits divided by costs by hundred so that is the formula that is used for calculating return on investment.

Determining Return on Investment (ROI)

- Determining costs
 - Methods for comparing costs of alternative training programs include the resource requirements model and accounting.
- Determining benefits methods include:
 - technical, academic, and practitioner literature
 - pilot training programs and observance of successful job performers.
 - Estimates by trainees and their managers



Now when we are talking about all these determining ROI, so you need to identify your benefits and costs in quantitative terms right so you have to determine the cost. Okay so have to see that what is the cost of the training program? And then this cost may include different kind of direct and indirect cost and that is they are going to use at an accounting procedures to find out the cost. Okay when you are going to determine the cost you have to see that what are the cost which are going to be include on conducting different kind of programs.

Okay including the resources that is required okay and then you have to see that how we are going to calculate the cost. Similarly you also need to calculate the benefits. Okay so benefits may be able to include a lot it could be a related to anything which is because of the training it could be change in the behavior, change in the relationship. Okay change in the performance okay and that is to be estimated by trainees and the line mangers in consultation with the HRD managements. Okay and that is how we calculate the cost and the benefit.

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Direct Costs

- Instructor
 - Base pay
 - Fringe benefits
 - Travel and per diem
- Materials
- · Classroom and audiovisual equipment
- Travel
- Food and refreshments

Source: Werner and DeSimone, 2006



Now when we are talking about training cost they could be different kind of cost is associated with a training program. Okay at this could be classified into three type of cost. Direct cost, indirect cost and other cost. Right they are certain costs which could be quantified properly they are certain cost which cannot be quantified, but we need to evaluate all costs because we need to calculate the cost in totality, so that you can divide it by benefits.

So when I am talking about the direct cost it include a number of costs like the cost related to the structure because you know that any training program we are going to hire people from inside so we are going to give them certain okay and if you are going to call from outside then all associated cards related to his TA DA are other benefits has to so during the period if he is there if you also calculate the entire cost that you are going to say both related to the instructor. So all cost which is associated with the instructor have to be accounted in when you are going to calculate the direct cost because that is what ever in rupee for the program.

Then the cost associated with the material so since you are going to use printed non printed materials radios, CDs and another kind of things or certain equipments when if taken on hence so you have to calculate all cost associated with the materials and the material cost may include equipments class rooms audio visual equipments which may also include travel cost transportation cost or finally you are going to disperse certain materials it also includes travel cost of the participants and other people it also includes food and refreshments.

So there could be lot of cost which is associated and this could be properly quantified because you have spent money on this weather you are going to relate with the material cost said printed or non printed weather that is related to renting a classroom or using audio visual equipments or the travel cost of the participant and the training and also the trainers and the food and refreshment that you are going to serve during the training program. So all cost associated with this is basically direct cost which can be calculated by identifying how much you are going to spend on these account then there are certain indirect cost.

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Indirect Costs

- Training management
- Clerical/Administrative
- · Postal/shipping, telephone, computers, etc.
- · Pre- and post-learning materials
- Other overhead costs

Source: Werner and DeSimone, 2006



And it is very difficult to calculate directly the indirect cost but you need to find a way out that how you are going to calculate the indirect cost especially the training management related activities how the training is manageable in terms of time resources thing that the department is going to spend so you need to find the way to quantify these things so that you can calculate it then the clerical administrative cost in conducting a training program because we are going to have some person who are going to work on this program in order to organize coordinate activities.

So whatever time resources that you are going to spend that is to be calculated then all correspondence course related cost like postal telephone computers that you are going to use so you have to have a standard or bench mark and then you use these bench mark depending upon the frequency and the intercity of the use to see that how much each of these item are going to cost you then pre and post learning materials that you are going to provide their cost.

Then other cost which is not included in these kind of things which could be related to say supervisors or line managers or trainees or even the trainers of the HRD department so there could be certain overhead cost. So which is not known immediately but there could be certain coat or what you call millennium as a miscellaneous cost that is to be identified.

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Development and Overhead costs

Development Costs

- Fee to purchase program
- Costs to tailor program to organization
- Instructor training costs
 Overhead costs
- General organization support
- Top management participation
- Utilities, facilities

Source: Werner and DeSimone, 2006



Like development and overhead cost so development and overhead cost is very very important because you have to see what are the various development cause how much you have paid to get the program weather you have paid to trailer mated depending upon the requirement of your organization or not then instructors training cost will so have go training to the trainer program and there could be a number of overhead cost like support resources stop management participation you are using utilities and facilities of the organization so that also requires certain cost all these kind of cost need to be included when you are going to talk about the development and over head cost.

So this development and overhead cost must be calculated which may be in direct in nature so direct indirect and these cost have to found out in order to see what is the total cost and then other administrative cost related to human resource management and these kind of things which are basically not directly but indirectly link with the activities.

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	COST/BENEFIT ANALY	5+5			
	DIRECT PROJECT CON				
	Design & Development Costs				
	Program Materials Costs				
	Promotional Costs				
	Management and Admin		-12-		
ROI –	Instructor/Facilitator Costa Participant Costa				
NOT	Other Delivery Costs				
	Training Facility and Related Costs				
sample	Total Direct Costs				
tomalato		REORMANCE OFFSETS			
template	Hard Financial Measures				
	Inferred/Estimated Financial Measures				
	Behavioral Measures Total Volue Of Officets				
	Term visite of onterm				
	NET DENEFITS				
		Benefits \$			
		Cos ts 5			
		-Net Benefits 3 5			
	REFURN ON INVESTMENT (ROD				
	FILL OF CHARTER FILL	and brook			
		Net Benefits \$			

Here is the sample that is given to you can see as a stamp let for calculating the ROI in terms of cost benefit analysis now if you look at this here you have two basically major cost that is direct project cost and revenue cost and performance of this is the benefits so what we are going to calculate here is these are the different kind of cost like design and development cost material cost promotion cost management administrative cost instructor facilitator cost then participant cost provided they have to travel some fair or they are not going to work so you are going to have some deals in their place.

So the replacement cost may be there other delivery cost which are not known immediately or training facility or related cost so these are the direct cost co calculate the direct cost ordinary terms and then you have other cost like using hard financial majors inferred estimated financial majors or behavioral majors that you are going to use and how much it cost and then the total

value has to be calculated in order to find out the total cost and then you look at the net benefit that you are going to derive.

So once cost and benefits are then what you do you find out that what is the benefit what is the cost then what is the net benefit and then you can calculate it in percentage terms that is net benefits divided by cost multiplied by 100 so it becomes sure ROI percentiles the ROI investment in particular program but it is possible only when you are able to identify all these cost accurately and clearly in some cases it is not possible for you to find out all measure cost.

So you use certain bench marks or standards that is in practice to identify the cost in some cases you use certain judgment from the experts to derive the cost of that particular thing right.

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Direct Costs	0
n-house instructor (12 days @ 1125 per day)	1,500
(ringe benefits (25% of salary)	375
travel expenses	3,360
Materials (\$60 × 56 trainees) Classroom space and authorisual equipment	3,360
12 days @ \$50 per day)	600
tefreshments (\$4 per day × 3 days × 56 trainees)	672
lotal direct costs	6,507
ndirect Costs	
training management Sterical and administrative salaries	250
Firstor Elementits (25% of salary)	187
hostage, shipping, and telephone	0
Pre- and positiraring learning materials (\$4 × 56 tranees)	224
lotal indirect costs	1,161
Development Costs ree for program purchase	3.600
notrue for training	3,000
Registration fee	1,400
Travel and lodging	075
Salary Benefits (25% of salary)	625
lotal development costs	6,756
Evertuead Costs	
Seneral organizational support, top management time	10
10% of direct, indirect, and development costs	14
	17 80
Compensation for Trainees trainees' salates and benefits (based on time away from job)	10 10
lotal training costs	12 5
Cost per trainee	

So after discussing this let us look at this that how you go about it so this is the example where I have taken up in training program and the various cost direct cost indirect cost development cost overhead cost including the compensation and trainings have been calculated so you can see that what is the cost per training, so for example you can look at the various direct cost like related to instructions in house instructor the benefits then the travel expenses the materials then class room then refreshment and then the total direct cost.

Now if you look at this so these are the various heads for example if you find the instructor is not there outside they do not have outside instructor you have in house instructor so the cost of instructor is provide if you have an outside instructor then you are going to have cost over where it is zero and this will become there were going to have some cost are here it is going to be zero so either you have in house or somebody from outside as a subject matter expert but provided in some cases you will have in house as well as such some from outside in that case you are going to identify the cost associated with external instructor as well as internal instructor.

Then you also calculate the travel expenses the material cost including class room equipments cost depending upon the number of days for which you are going to have program then you also calculate refreshment cost per day per person depending upon the number of training that you see that how to this calculated, so this gives on idea about the total cost then you move to the indirect cost like training management cost then clerical administrative expensive.

Since benefits that you have to calculate then postal shipping and telephone cost and then pre and post training learning materials for all the participants then that is that totally indirect cost and then the development cost fees for the program per sales instructive training, registration fees, travel losing's, salaries, benefits all these is calculated.

So all once you calculate all these and then also look at the over rate cost then organizational support over head that is 10% of all the cost that is here okay so the total overrate cost become this much. Now if you add all these it means then again you include the compensation for the trainings. Okay because the salary benefits these is time away from the job. So that comes off to this much.

So the total training cost comes out to this much so it the number of training in this case if you look at this is 56 trainees. So based on 56 trainees okay for three days I think then it comes out how to be how much. Look at this it comes out to be 587. Right so this is the cost for the training. So this is once you have once you calculated the cost then what you are going to calculate the benefits.

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Measuring Benefits

- -Change in quality per unit measured
- Reduction in scrap/rework measured in rupee cost of labor and materials
- Reduction in preventable accidents measured
- –ROI = Benefits/Training costs

Source: Werner and DeSimone, 2006

Now when we are going to calculate the benefits so how are going to calculate in the benefits in quantitative terms how much change in the quality per unit the reduction is measured. The reduction in the accidents and then you calculate this. So here also if you remember when we are talking about this one so if in this case what you have done you basically calculated all the costs. Now once all the costs are calculated you are also going to calculate the likely when that is going to have.

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Calculating Training Return On Investment

Operational	Here	Results	Results		
Results Area	Heasured	Before Training	After Training	f (+ sr-)	d in Ra
Quality of panels	% rejected	2% rejected	1.5%	3%	720 per day
Housekeeping	Vacal Inspection uning 20-tain checklat	1,440 parvels per day sit defects (average)	rejected 1,080-panels per day (average) 2 defects	360 partels 8 defects	172,800 per year Not measured in Rs
Preventable accidents	Number of accidents	24 per year	16 per	8 per year	
	Diract coat of each accident	8144,000 per year	96,000 per year	48,000	48,000 per year
Return Investment ROI =	Operational Results Training Coets \$220,802 = 6.8 \$122,564		Total savings: \$220,800.00		

SOURCE: From D. G. Robinson & J. Robinson (1989). Training for impact. Training and Development Journal, 43(0), 41.

Okay, but this can be calculated only after sometime okay now here one example is given here. That how is they are going to calculated, so how it is major the benefits. Equality of finance, how much rejection is there? So 2% rejected now after training one and a half percent is rejected it means thus improvement of 5% if you are going to expense in rupees so how much change is there? So for all activities these are the four criteria operational resource criteria that has been calculated.

Now if you look at this what they have done they have calculated the cost and they have also calculated the benefits. So how much savings they have made because of change is improvement in quality housekeeping, printable actions and also written in investment sorry preventable actions. So these secret have been taken and majors were percent of rejections. Okay then check leafs how much vigil inspection has come in terms of identifying the defects.

How much accidents have been there, so if you calculate this is a design –using a pre and post training. Right so pre training and then you will give a gap and then go for post training. So after training you give them sometime and see how much difference have been there. So here will find does you have been significant improvement and these are the saving in terms of band days money and other kind of things. Right so this has to be quantified so it this here you look at it this the total savings have been quantified and this total saving is divided by the cost.

Right so the cost is 32560 remove and talked about the cost and then we also calculated the benefits. So benefits divided by the cost that comes out to be 6.8. So if you multiplied by 100,

so it how much it comes out 68%. So it means that have been significant improvement or there is a good return on training in on investments. Right so if you are going to make a investment even if are able to convince the management by doing this kind of thing probably in better position to tell your management that see how we have make a significant difference and that is because of the training or these kind of activities.

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Utility analysis

- A cost-benefit analysis method that involves assessing the dollar value of training based on:
 - estimates of the difference in job performance between trained and untrained employees.
 - the number of individuals trained.
 - the length of time a training program is expected to influence performance.
 - the variability in job performance in the untrain group of employees.



Source: Werner and DeSimone, 2006

Right so apart from ROI method we also use utility analysis. Utility analysis basically tells you the usefulness of a training program for the current job as well as for the future job. Right and they are also we are using certain financial majors for example if you look at this. It is also basically cost of benefit analysis. Okay so what you do basically you see difference in the job performance between trends and untrend employees. Right then the number of individuals the who have been trained the length of time were training period is expected to influence program. The variability in performance in certain group of untrend group of employees and then look at the difference between that and then you can say see how was useful the training has been.

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Utility Analysis

- Uses a statistical approach to support claims of training effectiveness:
 - N = Number of trainees
 - T = Length of time benefits are expected to last
 - d_t = True performance difference resulting from training
 - SD_p = Dollar value of untrained job performance (in standard deviation units)
 - C = Cost of training
- ∆U = (N)(T)(d_t)(Sd_v) − C

d_t = difference in units between trained/untrained, divided by standard deviation in units produced by trained SD_y = standard deviation in RUPEES, or overall productivity of organization



So this is used and now I am giving you formula that are discussing that the literature which says how we go about calculating this? Right so this is the statistical approach to identify support clients for training effectiveness, so you can do this kind of analysis for example, if you look at this part, first part what we did that you have to identify these four things and that is to be calculated. So in this slide you can see here that N is the number of trainees. Then T is the length of benefits, length of time benefits are expected to last.

So and DT is true performance difference resulting from training. So the difference in performance that is training and this is SD_y is basically that all are value the money value of untrained job performance. Especially here were calculating in terms of how much there in the performance of the untrend people and C is the cost of the training and when you are going to calculate the cost of training that is basically direct, indirect, development and cost. Right so if you do this analysis so then what will happen you will be able to find out the utility of the program.

Right so this is the formula. So delta U that is the utility is and T multiplied by T, multiplied by this, multiplied by this minus C. So that is how you calculate the utility of the training program. Right so this approach can also be used to identify the utility of the program basically to convince the top management whether this program is effective or not and whether you should go for these kind of program or not. Right so the two important methods that you have talked about ROI and utility approach.

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Training Metrics

Expenditure per employee Learning hours received per employee Expenditure as a percentage of payroll Expenditure as a percentage of revenue Cost per learning hour received Percentage of expenditures for external services Learning hours received per training and development staff member Average percentage of learning activities outsourced Average percentage of learning content by content area (e.g., basic skills, customer service, executive development) Average percentage of learning hours provided via different delivery methods (instructor-led, technology-based)

Now when you are going to major ROI basically you are using certain matrix to identify the cost and benefits. Okay so if you look at this you find the number of HRD matrices that could be used to identify these kinds of things. Right how much you are going to spend per employees, how much learning hours are they are for because you maintain a database relate to this expenditure and training and development activities of the employees. Mind these that are spend on training. Right how much money you are going to spend on training as a part of as a percentage of the pay.

Right then how much revenue are generating and 42% of revenue are going to spend on training activities and what is the cost per learning hour that trainees are receiving or what is he percent of expenditure on externals are receive that if required for conducting a training program and training and development staff member that you can calculate. Then average percent of learning activities outsourced how much it is outsourced or percentage of learning content by content area in different see the training is to be given in different areas may be basic may be computer may be leadership development.

So if you look at this so you can classify what are the percentage of learning that is going to be there in different areas. It means that how what are the different areas were are going to offer training program. Okay in how much you are spending on those kinds of activities. Right and finally you have proceed that how much you are going to provide all in terms of percent of learning hours. Okay for different kind of methods. Right so there could be different kind of matrix that could be used to measure the effectiveness of the training program.

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Improving HRD Assessment

- Walk the walk, talk the talk: MONEY
- Involve HRD in strategic planning
- Involve management in HRD planning and estimation efforts
 - Gain mutual ownership
- · Use credible and conservative estimates
- · Share credit for successes and blame for failures

Source: Werner and DeSimone, 2006



Right so it is very important to improve the assessment in financial terms, because ultimately unit to talk in terms of money and if are able to convince the management about the benefits of the HRD program in terms of improving behavior performance. Then probably you will be in a better position and you will be able to prove your work to the management and the organization. Right and that is where you are going to be a strategic planning process.

Right and then you can involve management in HRD planning and estimation efforts. Okay, because it is mutually benefits beneficial for both the employees and the organize as well as the management. Right and then you have to use both conservative estimates as well assestimates in financial and non financial terms to convince about the benefits of conducting a training program in financial and non financial terms.

So that management is convinced and you prove your worth and you will be able to talk in terms of money that in what way you are going to impact to the bottom line of the organization or the performance of the organization. Right and at the same time while you are going to take readied for success, but if it is not happening a suppose for certain areas the benefits are not derived then you should accept there is possibility for not being successful and then you try to find out an investigate the reason for failures of these kind of program. So that you can see were the fault lies at which stays with the assessment stays delivery stays design stay or evaluation stay. So that you can correct it in future. Right, so that is all. Thank you.