Working Capital Management
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Lecture-55
Cost of Stretching Accounts Payable-I

Welcome students, so we are discussing today as well as in the previous class we have been discussing about the management of accounts payable and in the previous class I assured with you that when we stretch the accounts payable or delay the payment of our dues or the say **say** delay the payment to be made to the creditors or to the say suppliers or the expense creditors.

So, we have to pay the cost for that and when we were talking about the cost we I told you that they are the 2 kind of cost one is the direct cost and other is the indirect cost. I discuss with you the say causes of the indirect cost or the indirect cost the firm of indirect cost that how the indirect cost the payer has to pay where we talked about the gradual erosion of the goodwill.

Then we talked about the poor credit rating then we talked about the source relationship with the suppliers and loss of suppliers flexibility and then delayed supply of the materials right. So, these are the some issues which are involved with regard to the indirect cost and then I told you that the direct cost we will discussed sometime later. So, today I will discuss with you at length that what is the direct cost, how is cost to the say the payers are who have borrowed or who have purchase the material on credit or who have to pay to the different interest groups in the firm who are associated to the firm.

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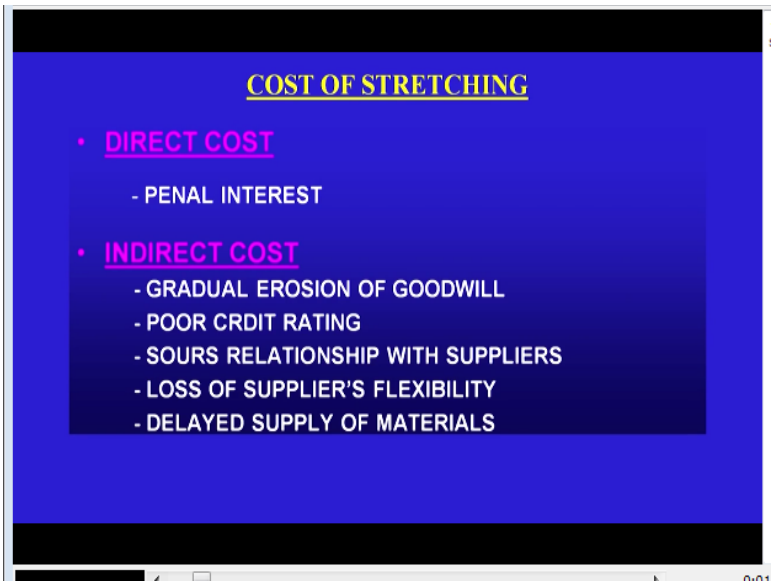

So, if they delay the payments then certainly especially it is in case of the suppliers, suppliers credit is not free and when we buy on the credit certainly we have to pay some interest for the period for which we are seeking the credit from the suppliers. So, we have discussed that yes 2 cost direct and indirect cost. So, today I will discuss directly and clearly with you the direct cost that what is the direct cost.

And how it can be quantified and how say here has to decide whether he should he would like to pay this cost or he would like to avoid this cost. Because it has many other precautions also 1 is the penal rate of interest then we delay the payments and other issues are also involved which are in the form of the indirect cost right. So, let us see that how we can measure the direct cost to the say payer or to the company who has purchase a raw material on the credit from suppliers.

And if they are delaying the payment and they have to pay the direct cost then how to say calculate that cost there how much that cost comes out to be because the purchasing firm the buying firm has to make the analysis whether it is advisable for them to delay the payment or not to delay the payment right. So, as I told you that in case of the purchase terms when we talk about the credit terms.

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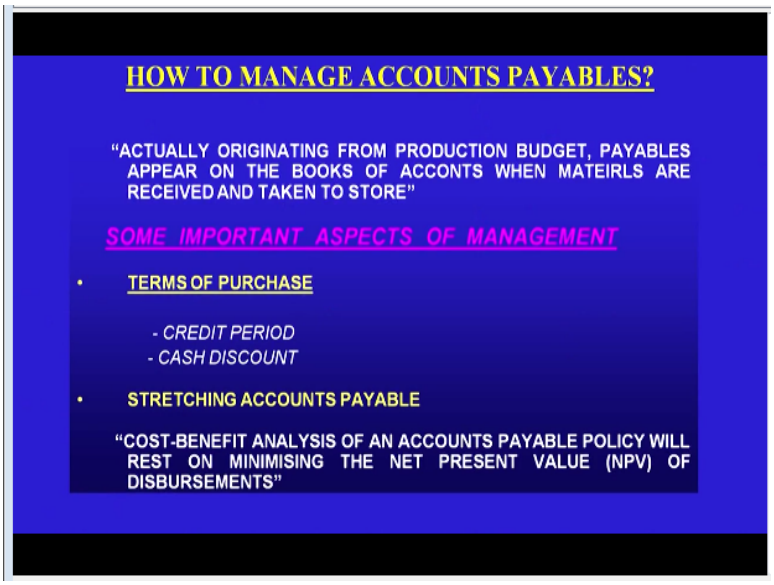

We have certain things to be taken care of and in the credit terms, terms of purchase we have a 2 important things credit period and cash discount. If you ask for the credit period then certainly forget the cash discount and but if you are the prompt to payer if he want to make the payment early then you can expect some cash discount to from the suppliers. So, the choice is of the firm who has to make the payment to the suppliers whether they want to enjoy the extended credit period or they want to enjoy the cash discount.

So, everything has a cost and that is the direct cost in terms of the money we have to pay this cost and when we have to pay this cost. So, after learning the indirect cost or the reasons or the causes of the indirect cost let us now discuss and learn in detail the causes of the direct cost. So, in the previous class I shared with you a model that how we can quantify, how we can work out the direct cost that will be the cost to the suppliers.

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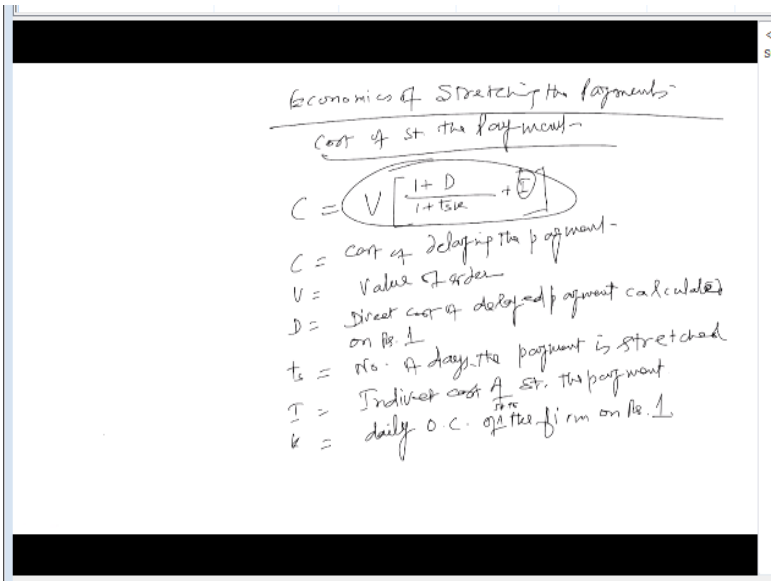

And the cost can be calculated with the help of this model and we have discuss this model in conceptual form that how this model works. And what this model means where we have seen some of the inputs have to be given to quantify the direct cost. So, we had this model with us that C=V*1+D/1+tsk*I capital I. So, C is the cost of delaying the payment cost of stretching the payment.

This is the 1 we want to calculate and then is the V value of the order that what is the order size which we have purchase, the material which we have purchase from the suppliers what is the size of that order, what is the value of that order. D is the direct cost of delaying the payment calculated on each rupee that is on the rupee 1 that is 1+D that is the direct cost means a penal rate of interest that is the penal rate of interest.

We have to pay if we delay the payment and that to on the each rupee of the order then is the ts number of days the payment is stretched or delayed, how many days for we are delaying the payment or stretching the payment. And then after that we have the k that is the daily opportunity cost of the firm on the rupees 1. Because we will delay only that if there is a opportunity cost means if you do not make the payment to the suppliers on time we delay the payments certainly we have clear that we have to pay the penal rate of interest.

So, it means there must be reason, there must be logic that we are not paying to the suppliers where that money is going, where that money is being invested. And that money if where we are investing that money if the rate of interest we are earning from that investment is more than the

cost we are going to pay to the suppliers. Then certainly makes a sales to some extend that he has we are delaying the payment.

Because we are using these funds elsewhere and then when we will recover these funds from that investment then we will make the payment to the supplier and for that reason there is no point. We can delay the payment and we are ready to pay the penal rate of interest. In this case what happens I would like to share with you very interesting story that all these big companies say for example you talk about the automobile sector or may be in the electronic sector or in the any other sector.

These large companies they force their suppliers to extend the credit beyond the certain period of time which is normally beyond the permissible limit of the supplier means the bearing capacity of the supplier. These firms insist upon that you give as a extended period of the credit and they all the times agree that he has if you are giving as a extended period of credit, you load your credit sales with the interest.

You are going to pay to or with your opportunity cost or your the interest which you are going to the pay to the bank or with your opportunity cost. So, there is no problem to these companies to pay the interest to the supplier and if the supplier is getting the interest then he is also he also does not mind that why should I delay the say accept the delayed payment.

But since he is getting the interest on that, so it means they also not mind about it. So, why these companies insist upon for extending the say credit period. Because when you talk about the supplier he is a small firm, he is a small size company, he is a small size firm and to whom he is applying he is a big company is a large sized unit or maybe the company belonging to the large sector right.

Now in India the rate of interest to be charged by the loans for the loans by the banks the that rate of interest is different when the loan is given to the small scale buyer and borrower. And the loan is given to the large scale borrower right say for example if because small scale sector comes under the priority sector. So, there is a concession in terms of the interest rate to be charged by the banks on the working capital finance being provided by the banks to these small suppliers who are called as ancillary units.

They will onto the small scale sector, so what happens that if say any big company for example you talk about the Suzuki India Limited who manufacture cars or the Honda CL who manufacture the Honda cars or any other Hyundai motors you talk about who manufacture the say Hyundai cars as a Korean company. So, if they borrow money from the bank maybe through say your CC limit or maybe through the working capital loan.

And then make the payment to the supplier on time, so it means on their borrowings the interest they have to pay to the bank is very high. But if they borrow money through supplier means if I think you are able to understand it, so what happens that they ask the supplier that we will not borrow money from the bank, you borrow money from the bank and you fund your credit sales to us.

Because if you borrow money from the bank and you say fund your credits sales verse by using that money that help from the bank or that loan from the bank. You have to pay say 12% rate of interest this is for an example not actual 12% rate of interest. But if we borrow money from the bank and for draw money from our working capital limit or maybe from the working capital loan maybe we have to end up paying the 18% rate of interest.

So, it means what you do is you borrow money from the bank you sellers on the credit and whatever the interest you are paying+your administrative cost. You are paying 12% to the bank, so load your credit sales to us which you are making to us with 13 or 14%. We are ready to pay you the 14% rate of interest or 13% rate of interest but we want the extended credit period. So, it means in this case what is happening is a company who is a large sized buyer.

He they are saving 4 to 5% interest on the borrowings they are making from the bank through the small scale manufacturer. Because if they themselves borrow from the bank and pay to the supplier in cash after the normal credit period. They have to pay 18% interest, but if they ask the supplier to extend the credit and borrow money from the bank to fund the credit sales he has to pay 12% interest.

So, in that case you can say in India indirectly that small scale credit which is available from the banks under the priority sector is going to the large scale companies. And many a times many experts have recommended to the government that this interest rate differential which is provided

to the small scale and tiny and cottage industries that should be withdrawn or the limit or that percent of that out of the total credit.

The credit is going to small scale sector should be lowered down. Currently the as per 1 estimate around 40% of the total working capital finance from the banks should go to the priority sector or to the small scale sector. So, it means that 40% is indirectly going to the large sector and large sector is saving heavily upon the interest. So many committees including Narasimham committee very famous committee on the working capital finance as well as the bank reforms.

They were recommended to the central government ministry of finance that this type of the concession should be withdrawn. Because this credit is indirectly being enjoyed by the large scale manufacturers for this as not happen and this practice is still continuing. So, still we are we will be talking about the cost and 1 has to pay the cost if they delay the payment or they stretch the payment and here is the model how we can calculate that direct cost.

Now I will with the help of a small problem I will discuss with you the things that how we can calculate their cost and how we can I have brought a small problem. So, we can solve this problem and with the help of this problem we can try to understand the direct cost which is involved in this. So, with the help of this problem I have try to find out a problem which can help us to understand the direct cost calculation.

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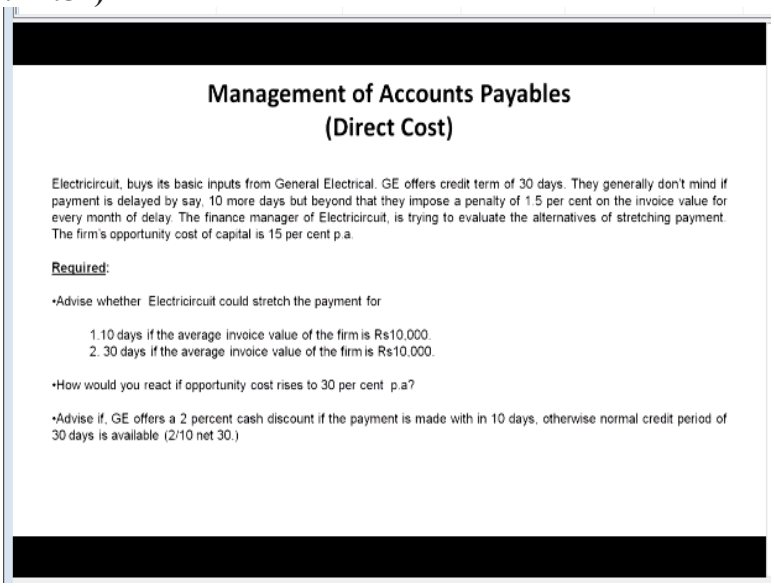

And here is the problem we have small problem and we will evaluate the cost to the cost to this particular company. If they delay the payment under the different situations say for example if

you read this problem say the problem is like electric circuit buys the basic inputs from general electric. General electric offers credit terms of 30 days they generally do not mind if the payment is delayed by say 10 more days.

But beyond that they impose a penalty of 1.5% on the invoice value for every month of delay right. You could understand it well that normally the credit period is 30 days but they do not mind if the payment is delayed for another 10 days it means if you make the payment up to 40 days from the date of buying the say goods on credit. They do not mind and you want to have to pay anything extra or any penal rate of interest to the supplier that is the say general electric by the electric circuit right.

But if the payment is delayed beyond 40 days then for the entire amount of that period that is for say we can assume that payment is made for say after 2 months 60 days. So, it means then they have to pay the cost for the entire period of the 2 months and that say **say** you can call it as the float of the 40 days will not be allowed by the supplier to the payer. It does not mean that okay you delay the payment for 40 days.

And then you make the payment after say 60 days or maybe on the 60^{th} day, so you will be charge the penal rate for the 20 days more. That float of the 40 days will not be there and we have to pay the penal interest on the total period of 2 months right. The finance manager of electric circuit is trying to evaluate the alternatives of stretching the payment the firms stretching the payment right.

The firms opportunity cost of capital is 15% means if they do not make the payment to the GE general electric if they use at money elsewhere. So, they earn 15% their opportunity cost is 15%, so let us see if the opportunity cost is 15% order size we will see here and the normal credit terms are 30 days. But delayed by 10 more days means up to 40 days general electric does not mind but beyond that if you delay the payment.

You have to make the pay say interest for the total period for every month of delay, that is the total delay and that cushion or that float of the initial 40 days will be withdrawn by the supplier. Now what we have to do here is required whether means advise whether electric circuit could stretch the payment for 10 days. If the average invoice value of the firm is 10,000 to 30 days if the average invoice value of the firm is 10,000 means should they delayed for **10** 10 days.

So, that to make the payment on the 40th day or they should delay the payment up to 60th day 2 months order size is same. The value of the order is 10,000 only but they are evaluating it that what should they do looking at the 15% opportunity cost. If the payment is delayed for by 10 days it means if the payment is made on the 40th day how much is the net outcome and what is the cost and say if it is paid on 60th day means initial 30 days credit is enjoyed.

And additional 30 days credit is enjoyed means rather than enjoying the credit of 10 days the credit for additional 30 days is enjoyed it means the payment is being made after 2 months. So, whether it will be worth file for the electric circuit to make the payment to GE this is these are the 2 conditions in the first option, second how do you react if opportunity cause rises to 30% per annum means same thing delay of the payment by 10 days or by 30 days 2 cases.

First case is that opportunity cost is 15% and the second case is opportunity cost is 30% though it is very high. But we can assume right and third option is advised if GE offers a 2% cash discount if the payment is made within 10 days right otherwise normal credit period of 30 days is available 2/10 at 30. That for example they do not enjoy any credit period they say no we do not wont the credit period we are ready to make you the payment within 10 days from the date of purchase the movement receive the goods from you within a period of 10 days will make you the payment.

And GE also offer that okay if you make the payment not even stretching to 30 days or 40 days right, if you make the payment us up to the 10th day from the date of purchase then we will give you a discount of 2%. So, these are the 3 situations we will have to evaluate, whether they should delay the payment for 10 days means make the payment on 40th or on the 60th day. When the opportunity cost is 15% or they should delay make the payment on 40th or the 60th day when the opportunity cost is 15% or they should delay make the payment on 40th or the 60th day when the opportunity cost is 30%.

Or they should enjoy a cash discount by making the entire payment within 10 days enjoy the cash discount by 2%. So, what is better for the company electric circuit who is the payer or who is the buyer on the credit from the general electric right. Now let us try to understand how to evaluate this problem and for evaluating this problem we will take the help of again the same model this model I will be using and with the help of this model will give the inputs to this model.

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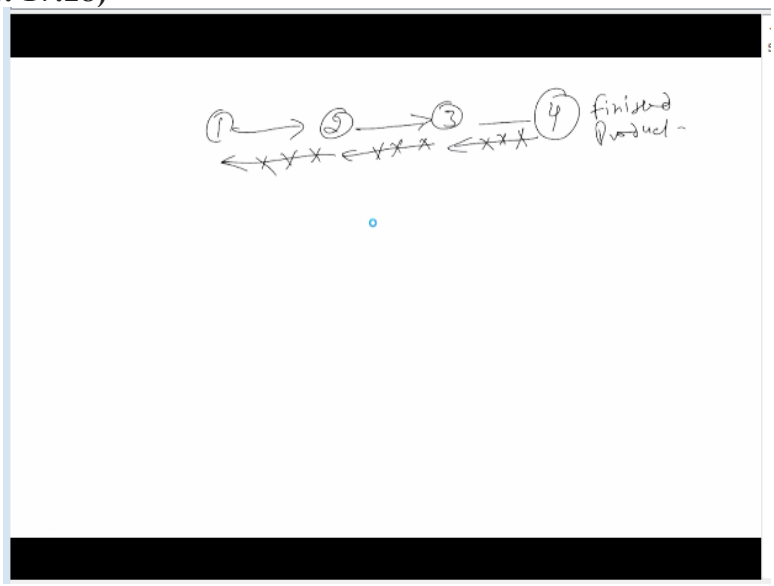

And try to calculate that what is the cost to the electric circuit, if the payment is delayed by the certain amount of time. So, first of all what we have to do is we have to calculate the daily opportunity cost.

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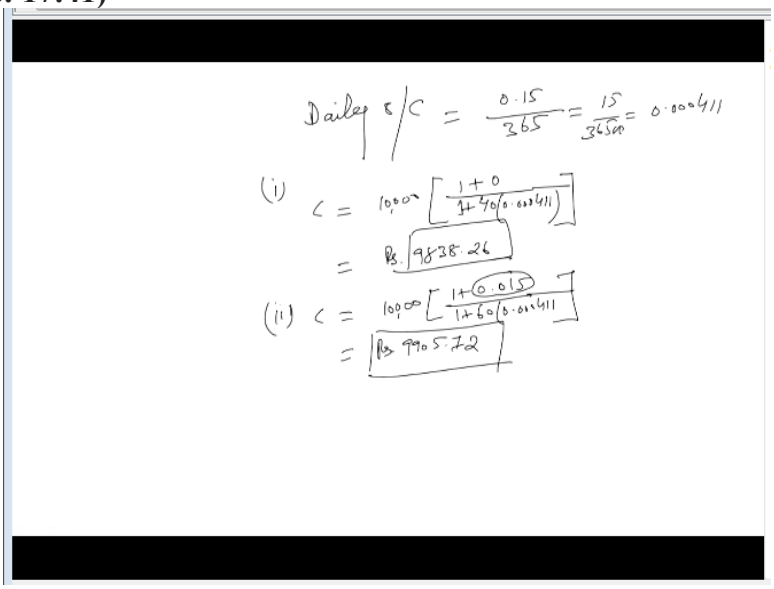

And what is the daily opportunity cost we have to calculate that the say k is the daily opportunity cost given in the model. So, daily opportunity cost is how much that we have to calculate in the problem we have given that opportunity cost of the firm is how much 15% right. So, that is annual, so what is the daily opportunity cost that is 0.15/365 we will assume the annual days, days in a year 365.

So, that works out as how much that will be something like this 15/36500 and that is value will come out as how much that is 0.00 sorry we will have to see 0.000411 this is the daily opportunity cost. If the annual opportunity cost is 15% then how much is the daily opportunity cost that works out to be 0.000411 right. Now we evaluate the first option be the help of this opportunity cost let us evaluate the first option.

So, what was the first option that if the payment is delayed by 10 days only normal credit period is how much 30 days and if the payment is relayed up to 10 days 10 more days and the payment is made on the 40th day. So, it means what will be the cost to the payer to the electric circuit means the total cost or you can call it as the net % value of the payments the electric circuit is making to the general electric.

So, let us calculate the C here for calculating the C what is the value of the order that is given to as is 10,000 and here it is 1+what the models is 1+D direct cost up to 40 days the direct cost is 0. We are taking the direct cost is 0 then 1+then what is the model what is the time of stretching time of stretching is 1+time of stretching is 40. We are stretching it for 40, so it means how much it is, it is 0.000411.

This is the total cost of stretching and we are taking here is and we are closing the bracket we are not say counting here or factoring for the indirect cost. We will we can **we can** quantify the indirect cost also that we can add +i but I am just for the movements skipping that I am taking the direct cost first the direct cost. So, direct cost will be that be the payment is made on the 40th day but delaying it for the 10 days.

And the opportunity cost is 15% what is the cost if you calculate this cost how much it works out as this will work out as rupees 9838.26 right. If you solve this you will get this figure 9838.26 it means the net % value of the 10,000 rupees which are being paid. On the 40th day after purchasing the goods from general electric by the electric circuit they are actually paying though they are paying 10,000 but the net % value of that payment today is that is 9838.26.

This is the NPV because as we discuss in the beginning that the purpose of the payer to delay the payment is to minimize the net % value that how much payment he wants to may that he wont to pay as minimum as possible though is paying 10,000. But the net % value will come down if the

time period is delayed, so we are delaying the payment by 40 days without paying any penal rate of interest.

It means we are actually paying 9838.26 rupees against the total value of the order of 10,000 rupees. So, by paying 10,000 actual payment is 9838.26 this is the 1 option, number 2 is if the payment is made on the 60th day. If the payment is made on the 60th day maybe after enjoying 30 days and then the 30 more days.

Then what will happen the permissible float of the 30 days initial 30 days+10 more days will not be allowed. So, what will be there then he has to pay the penal rate of interest on the entire amount and how much that will be calculated. So, we have to calculate the C here again, again the order size is how much 10,000*that is 1+0.015 and divided by again 1+60 how we are ts is how much 60.

And the opportunity cost will be how much that is 411 right and you close the bracket now. So, we have know added here something which is called as the penal rate of interest or the direct cost that is the D means direct cost of stretching the payment calculatetable on each rupee of the order. So, it is we are adding here 15% that is the 0.0 that is say not 15% sorry this is not the 15% but this is 1.5%.

That the opportunity cost we were saying here what was the opportunity cost we will look at the problem here. That they generally do not minding the payment is delayed by say 10 more days. But beyond that they impose a penalty of 1.5% on the invoice value for every month of delay 1.5% per month it means how much 18% per year right. So, it means the we have added here that if the payment is delayed beyond 40 days.

Here we are assuming the time period which the company the payer electric circuit is enjoying a 60 days then making the payment on 60th day. So, they are paying it with the penalty and the penalty is 1.5% per month right and we have taken here the 260. So, we have already factored it. So, now in this case if you talk about then we will see here that what is the outcome here if you calculate this outcome if you see what is outcome here that is rupees total amount will work out as how much 9905.72.

This, so one is this net % value another net % value is this much if we are delaying for 40 days we are actually paying not 10,000 but 9838.26. But if we are delaying for 60 days then how

much we are paying we are paying it with penalty that is 1.5% per month. And actually the net % value of that payment of 10,000 rupees goes up, because penalty has been added that is 9905.72.

So, now you can think of what is your choice you want to pay after 40 days or you want to pay after say how many 60 days. Now if you say for example if you pay after 60 days then how much you are paying you are paying more than what you are paying after the 40 days right. We are making the payment which is more, so in this case what is happening we are net % value is also increasing.

We are paying the penalty, so because of that the net % values increasing and when the net % values increasing. So, it means it an apart from that we have number of other outcomes that we have to say pay the indirect cost also. So, it means we are paying increased NPV of the 10,000 rupees as compared to delaying for 40 days. And we are paying the indirect cost also because this will not be light way anybody that though you are paying penalty.

So, it can be allowed even after the penalty this kind of the things are not liked by the receivers or the companies who are suppliers. So, in this case what will be there this type of the things should be done by the payers when there is a serious liquidity problem. If they do not have the funds then they can take the risk of delaying the payment rather than paying on the 40^{th} day. They can pay it on the 60^{th} day and with penalty they are paying.

So, it means they can take this chance this risk if there is a serious liquidity problem that they do not have the funds available or the opportunity cost is otherwise very high. Normally it should not be done because it erodes the goodwill of the payer suppliers will start looking for other buyers from them. And this will means create a problem not in the short run but in the long runs what should be done if there is a seriously liquidity problem. You can do this kind of things and that to once in while not on the regular basis., So, this is the one case we have evaluated here now if we talk about the second part then we can see here that what is the second condition.

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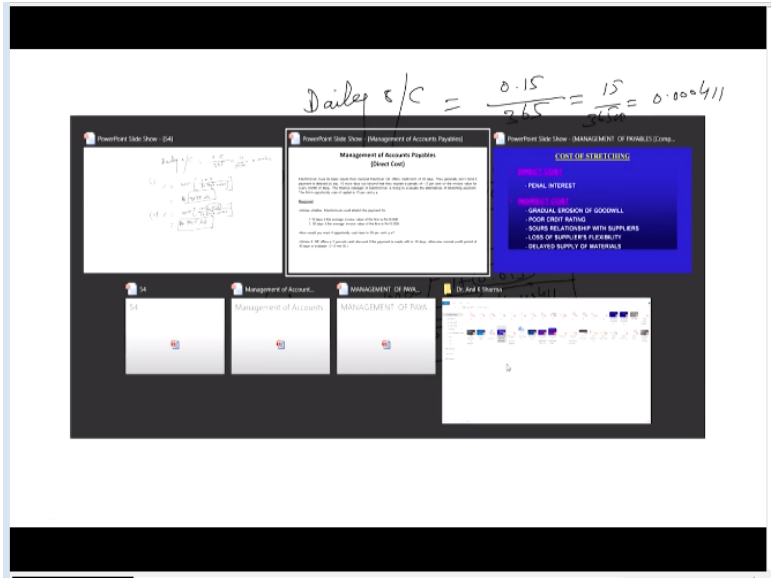

If you look at the second condition here, then in this case what is the case that if the payment is delayed say 30 days, 10days and 30 days. When the opportunity cost is 15% and second option is how do you react if the opportunity cost rises to 30% per annum. Now let us see evaluate that option also if the opportunity goes to the say 30% when you talk about the opportunity cost is going up to opportunity cost of the firm is 30% when the opportunity cost is 30%.

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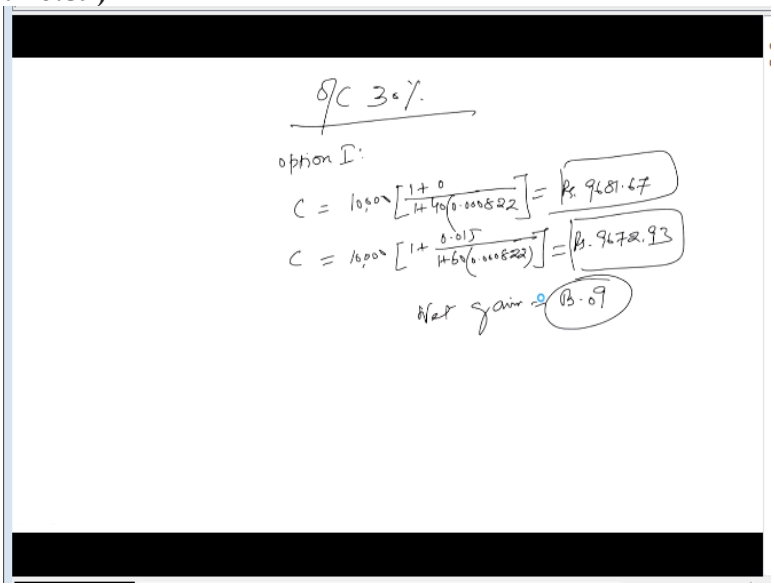

Then what is the outcome we will evaluate it, now let us see the first option, option-I is that is say in this case we have to the C. So, if you calculate the C here what is the value of the order again it is 10,000*1+what will be here sorry let me rewrite it if you see here option-I we will go for the option-I here, so what is the c, c is 10,000 is the value of the order and then again will take 1+that is 0.

Because 40 days for the opportunity cost is high now that is 0 and then we will take here is how much that is 1+ how many days 40days. And what is the opportunity cost, opportunity cost is double now. It is 0.000822 we have to take here and close the bracket, if you calculate this then what is coming out here is that is 96 rupees 9681.67 is the outcome and then if the payment is made after 2 months on the 60th day then what will happen.

We have to pay the penal rate of interest at the rate of 1.5% per month. So, what is the C in this case this is 10,000*1+now we will we taking here is that is 0. 015 divided by 1+ 60 we have taking here into how much 0.000822. So, we have added the penalty here, so when we have added the penalty here it means now the NPV will say go down, when you are talking about NPV will be say further we will have to check here that the NPV will be how much.

That is the finally if you calculate the NPV here that will be something like 9672, 9672 is 0.93 this is the NPV of the order. So, now you calculate both the situations if you look at if you see the this situation here what is happening we are if making the payment on the 40th day we are ending up paying 9838.26 rupees against the order value of the 10,000. And if we are making the payment on the 60th day actually what is happening we end up paying more than what we are paying here.

We are paying now actually 9905.72 because opportunity cost is 15% only and penal rate of interest is 18% right, so it means we are paying because penal rate of interest is 18% per annum and the opportunity cost is less than that it is 15%. So, what has happened as a result of that your payment net payment of the net % value of the payment which we are making on the 60th day is more than the payment we are making on the 40th day.

But here in this case if you look at it has reverse has happen why it has happen that if you are making the payment on the 40th day. We are ending up paying 9681.67 rupees against order of 10,000 rupees but if we are delaying the payment by another month and paying on the 60th day, then we are say actually paying 9672.93. So, in this case you can say that this option is better than this option but what is the net gain.

Here you are paying almost what is the net gain that is almost of how much 9 rupees net gain is in the NPV net gain in the NPV is how much that is rupees 9, you are paying you are saving 9 rupees. So, would you like to say pay the huge indirect cost just for the saving of 9 rupees that is

not possible means we should not delay the payment just for bigger gain of 9 rupees rather than paying 9681.67.

If we delay the payment after 2 months you are ending up paying 9672.93 we are only gaining 9 rupees. But the loss indirect loss to the credibility to the reputation of the buyer to the payer means reputation of the payer is very very high right and why this has happened. In the other case when we have seen when you are paying in the 40th day you are ending up paying 9838 and when you are delaying the payment and paying the penalty or ending up paying 9905.

And here in this case reverse has happened that when you are delaying it for 40 days you are paying 9681.67 but when you are delaying for 60 days. Then the net % value has further gone down from 9681 to 9672.93 this has happened because here the reverse is there that opportunity cost is less that is 15% say opportunity cost is very high that is 30%. But the penal rate of interest is say that is 1.5% or the 18% per year.

So, when the opportunity cost is very high that is 30% as I told you in the beginning if the opportunity cost is very high and penal rate of interest is lesser than that. Then we can think of defaulting on the payment but otherwise also that number1 here in this case just for a small gain of 9 rupees they should not be done maybe if you look at the real perspective of the companies. Then we have to see how much is the net gain what is the saving in the net % value of the payment 1.

And what is the indirect cost we are paying in the market we have to clearly evaluate both the options and in this case. If from this information only if we have to take the decision I think I would advise that the option-I should be taken into a account that if the opportunity cost is 15%. Then I think they should make the payment on the 40th day not to wait or delay the payment, so is to save in terms of the indirect cost as well as the direct cost.

They will be saving on both the cost but anyhow if the opportunity is very high that is 30% then they can think of delaying the payment. Because there is a net gain after paying the 60th day means on the 60th day rather than the 40th day. But still we have to look at the gain and the indirect loss to the credibility of the firm. So, I will stop here giving the options to you that is what should be we do that if there is a opportunity cost of 15% and 30% in the penal rate of interest say 1.5% per month or 18% per year.

These are the 2 outcomes we will continue the this discussion means the remaining part of this problem we will continue and the remaining options whatever the options available are in this particular case I will discuss with you in the next class and then we will take the decision in the holistic sense, thank you very much.