Financial Management for Managers
Professor Anil K. Sharma
Department of Management Studies
Indian Institute of Technology, Roorkee
Lecture 18
Capital Budgeting Part 2

Welcome all. So, we are in the process of learning about the capital budgeting, and in the say previous class, I told you that we will discuss now the capital budgeting process. And we discussed something about it in the previous class also what is a capital budgeting process? And what is it is importance?

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So, as we can see here that six steps are involved in the capital budgeting process. And it begins with the first step that is identification of the potential investment opportunities, identification of the potential investment opportunities. This is very very important concept, it is a very very crucial step say how, means any project is going to be worthwhile, any investment proposal is going to be worthwhile, we have to be very means say you can call it as a careful in identifying the project or the investment proposals. That where say millions of rupees we are going to shell out. That should be a worthwhile investment, different ideas because if you talk about the startups or the new investment say proposals.

In the form of the startups, there what is the most important? Most important is the idea. That if you have any idea in the mind then we start working seriously on that, and that idea can be transformed, can be converted into a business opportunity or a business proposal, provided it has the business value and the business value is in terms of that their idea when if it is converted into the business or maximum may be the goods and services. When start coming out of it where is the market for that? Where is the market for that? Is there any divine for that any market for that?

Now, if you are talking about the adjusting firm, if they are going for adding a new product in the existing series of the products, they are very careful in their analysis. They are say highly professional, they know it how they have been running the business in the past. And how they are going to now add up the new product.

And there say addition of the new product into the existing series of the products, depends up on number of factors. Number 1, the first important thing is feedback which they get from their marketing at the sales force. That we are successfully selling our 3, 4, 5 products in the market.

But there is a demand for a new product in the market. And sometime their channels of distribution tell their sales force that if your company starts manufacturing this product also, or start rending this service also there is a quite good amount of demand for this product or service in the market.

Because manufacturing anything is not difficult these days. Or generating any service is not difficult these days. We are in Global village. Early there was a problem of the say your raw material, because we do not have the good quality raw material. There was a problem of the foreign exchange. There was the problem of the good management skills.

There was the problem of say good marketing skills. There was a good of say, shortage of the good skilled human resources. There was a problem of the good technology, know-how, but these days all these problems are over now. We are totally globalized economy. We are totally liberalized economy, globalized economy and even government insist for that whenever you are going to have a new investment proposal or you are going to make new investment.

You have to make sure for one thing and that one thing is the global sourcing. That whatever the inputs you are going to make into your business. In India even today’s time you make sure that the that those or those inputs they are, they are going to be best in the world. If you have the best raw material available in India. You make use of that first but if it is not available you import it.

If you have the best technology available in India, fine you make use of that. But if you do not have the best technology available in India you import that. And rupee is convertible on the current account. Convertibility of rupee on the current account means whatever the foreign exchange you require, you can deposit that much of the rupee with the government and you will get that much amount of the foreign exchange for fulfilling your input requirements, for fulfilling your investment requirements in terms of raw material, in terms of technology, in terms of know-how, in terms of even having the better management skilled people or anything.

So, when foreign exchange is not a issue, when the raw material is not a issue, when the technology is not a issue, in that case, in that case, manufacturing of anything is not difficult. Anybody can manufacture anything and when the manufacturing is not difficult, it means what is difficult is the selling of the manufactured product in the market.

Because as there are number of options available for manufacturing the product and different manufacturers are there in the market. Same way the options with the customers have also increased it is not like along back a closed India, the steel authority of India is manufacturing steel for India, it is not that few limited Indian companies are manufacturing the color TVs, refrigerators and washing machines in India.

It is not the case that BHEL is manufacturing the say the turbines and heavy say the electrical machinery in India. Today there are the number of alternatives and the sectors which were reserved for the public sector participation only till 1991, most of those sectors have been opened up now for the private sector participation including the foreign investors, foreign direct investors and now it is the era of the globalization, it is era of liberalization.

So, it means manufacturing is not difficult. Generating of any service is not difficult. I gave you some example some times in the past when we started discussion on this subject for this particular course. I told you about the general motors, they told that you conceive any kind of the car. Any kind of the features you want to have in that car and within 15 days means you give that designs to us and within 15 days we will hand over you the keys of the car.

This is now the era of this kind of the quick response. So, when the supply side has (())(6:31) means very heavily in the market, very say you can call it as a say to a larger extent it is become very powerful. The supply side has become very powerful.

Now, the customers have got the choices when the customers have got the choices only those products and services we will be selling in the market which have the best fit. It is it is era of the survival of the fittest. We call it as the era of the survival of the fittest and who is fit in today's market?

Who understands the market in a country like India very carefully because it is a highly price sensitive market. It is a highly price sensitive market. So, largely those products we will be selling in the market which are fulfilling the say economic requirement the physical requirements, the sociological requirements of the people, at a very very competitive price.

All kinds of requirements at very very competitive price because people have limited income here. People can compromise for the quality for some amount of time but if the price is seriously reduced. People go for a product which is very very competitive in the price and not very very efficient in the quality. If you want to sell a product which is very efficient in the quality.

But if it is price that is very high, it means people will not be able to buy that product. And people will largely go for because larger chunk of the population is having a limited income, which is in there hand, usable income which is in their hands. So, it is price sensitive economy. So, we have to create a product which is fulfilling all kinds of the requirements of the people also. Our say potential customers also and it is very competitive in the price also.

So, you have to have that kind of idea, so identification of the potential investment opportunities is a very very important and the crucial step and the success of your say investment proposal largely depends up on that. What is the requirement in the market? And how you are able to understand the needs of the people? When Karsanbhai created the Nirma, Nirma washing powder initially.

He understood the requirement of the people at that time because cheaper range of the washing powder was not available in the market. And the washing powder is kind a product which is of every day's or everyone requirement. We wear clothes, so we have to wash it.

So, we were looking for some alternative and when this product came in the market. Everybody welcomed it with the open arms and product became a huge success in the market. Then different, now you talk about this in the services sector OLA and Uber. This is a requirement of say today’s India.

That people want the services so when Uber came to India, means the person who is owning say IIT Bombay graduate the owner of the OLA he got an idea that with the Uber is the success in India. Then I can create similar kind of the app similar kind of this say cab say facility. Cab service in India and I can become a say big service provider to the people fulfill their requirements.

And today you see that the growth of the OLA it is existing in almost in every say city of India. It is big competitor to the Uber. For example, OYO rooms when you talk about the OYO rooms you talk about the Paytm, these all are the products, these all are the services created by the new young entrepreneurs in India. And it is only the idea which has really worked very well and if you are able to understand.

What is the requirement of the people? How to fulfill that requirement? How to means serve the people need at the at a very competitive price. Your idea is going to work very well. Because when you have an idea and with that idea when to go, when you go out and search of the funds. We are not going to get the funds for a new idea from the banks.

We have to go to the say different kind of the financial institutions who are called as angel investors or may be the venture capitalist. And when you go to the venture capitalist if you are a going to have a start-up. When you go to the say venture capitalist, he first of all likes to know about your idea. What is your idea?

But you, what kind of the business you wanted to have? Which product you want to manufacture? Which service you want to say render or generate in the market? That will be the say the beginning of discussion on that particular point and those people are very smart. Because they have to make investment in the market in a project in that particular business which has not seen the light of the day, which is going to be very very say risky investment.

So, largely because they know the world markets. If we have an idea in mind that the product or service is successfully working in the developed economies. We want to bring that to the developing economies also. For example, this say packaged drinking water, when Bisleri brought it from say their home country to India.

So, it means they thought that is a huge country, it was a country of 1 plus, 100 plus say 1.2 or may be at that time also we were 1.2 billions people. 100 crore people countries is there. So, drinking water can be a good market, so they started this process long back.

And today you see that it has become big market. We have become so conscious, we have become so careful that whenever you want to take a say we want to drink some water. We always preferred to shell out 20 rupees and like to buy a bottle of the water. So, the idea is working after that so many people are there in the market. So, many brands of the drinking water are there in the market, packaged drinking water are there in the market.

When Karsanbhai started Nirma after that so many brands of cheaper washing powder are there in the market. So, one person comes with an idea, he becomes the first mover in the market and people start following and it becomes a huge success in the market. So, identification of that idea, conception of that idea is a million dollar question.

From where the capital budgeting process begins. And if the idea is good I can say that it is if the beginning is good, end is certainly going to be very good. So, it means your project is going to be a very successful project. Your product or service is going to be a huge success in the market. So, this is the first important point. Second is assembling of investment proposals.

Assembling of the investment proposals, so after having an idea, different kind of the investment proposals can be there. They can be replacement investments, expansions, new product, obligatory and the welfare investments. So, it means once we have got an idea that we want to make some say new investment in the market.

So, if we are a new investor in the market. For us we have to look for the say the funds. We have to go out in search for the funds, we have to look for the funds. And if the idea is workable in the market. If the venture capitalist accepts our idea. Then we are going to get the funds and we are going to means convert that idea into the business.

But if it is existing organization, existing firms for them also may be the idea is not a problem because they know that they are already into business. So, they might have the different proposals in their mind. For example, replacement investments can be there, expansion investment can be there, new product investments can be there and obligatory and the welfare investment can be there.

But you see all means, for example, they all have their existing firm all they have in their mind replacement investment is one option available they can do it. Expansion is also possible they can do it, means replacement is replacement of the existing technology with the new technology. This is an good idea because the product we are manufacturing.

For example, you talk about the say now the steel authority of India. They having the say 6 plants, 6 steel plants the technology is quite old. For them if they have to means change the technology if they have to bring the new technology in place. They have, they have to invest millions of rupees and this a good investment proposal for them.

They know that this idea is there in mind, they want to say change the technology but it is a question of investment which has to be generated. So, they cannot do all the 6 plants together. They have to do it one by one. So, this is the one, idea is there but which technology, from where it has to be taken. How much investment is required? And how that entire process has to be completed?

Now, it itself is a capital budgeting proposal. Expansion, for example, we are already manufacturing 4 products we want to add the 2 more products in the market 5 or 6. Again means it is full-fledged capital budgeting proposal for us. Because you have to evaluate it like a new project, new investment proposal because success and failure is linked there also.

New product, again expansion new product and sometime we have to do the obligatory and the welfare investments also. For example, under the CSR requirement also or may be under the human resource welfare requirement of some existing organization. We want to create schooling facility for their say children or maybe we want to create the hospital facility for our employees and their dependents.

So, though it is a social investment but means we can quantify the benefits coming out of it. So, they cannot be directly linked to the say the inflow and outflow but still every investment whether it is a business investment. It is social investment we have to evaluate it like that. One important example could be in case of the obligatory and welfare investments.

That for example, may be the, we have a location were the plant is existing. The part of the land is now have started eroding. So, we want to have a retaining wall there so which is say increasing the life of the project which is means doing away with any kind of the dangers for the say any kind of the say loss to the projects.

Physical loss to the project so having a retaining wall or creating that safety infrastructure itself is a investment proposal. So, all this investment proposals first of all identification of an idea or the opportunity. Second thing is assembling of this different, assembling is more important for the existing organization. But the first one is equally important for the new ones also and for the existing also.

If it is new one, idea is the most important but if it existing one, there could be number of ideas in mind and they have to be assembled together, out of that either they have to rank or they have to be rationed if there is a investment, limited investment is available. We can say that out of these 5, 6 investment opportunities. We can take up to immediately and remaining we will thing about in the time will come.

Then we talk about the decision making. Now finally, after this evaluation, decision making is what? Decision making depends largely upon availability of the different input requirements and the consumption or absorption of the output also. Input is that in terms of for example, whether technology is available, whether the say human resources, trained human resources are available.

Whether the land for that particular investment proposal is available. And at the same time the most important thing here is the demand for that new product or the new service which is going to come up is there in the market or not? First of all I think there is first and foremost that if you want to decide about the success or failure of any investment proposal.

We have to start working with the demand, market and demand analysis. Market and demand analysis is the most important thing if you make the market and demand analysis and the answer comes there from yes, there is a sufficient demand in the market for this new product if it comes up certainly means it is beginning of say now serious thinking towards the new idea.

After that we have to think about the different inputs. So, all these things are required right for the market and demand analysis to the technical analysis, to the human resource analysis. Everything is involved in terms of the decision making. So, we will have to move towards. We are maturing now, first of all we are identify the idea, then we, for the existing firms we saw that apart from the new idea. What one the existing investments can be.

After that we are talking about now we are moving towards decision making process. Starting with the market and demand analysis, technical analysis and then the say human resource analysis and after that next step is the preparation of the capital budget and the appropriations.

Preparation of the capital budget and appropriations. It is the most important job. In case of the new projects we will have to prepare the proper capital budget. Capital budget means we have to assess the total expenditure, we are going to make for building up that particular facility. That particular project, total outflow of the funds we are going to means this the total outflows of the funds this project is going to cause.

That means assessing that total expenditure is the, is a million dollar question. And after that is appropriations that appropriations and one more thing, I would add here is the projections. Projections of your total estimates, capital budget appropriations in the form of the projected financial statements. When you prepare a projected financial statements for a next 10 years period of time.

Starting from 0 period to the next 10 years. 0 period this much outflow will be there and now inflow analysis. So, when you prepare the balance sheet you say talk about the different asset liabilities. That this much of the investment into the long term asset, land, plant, building, machineries required. This much of amount is required for running those plant, building and machinery successfully.

So, we need this much amount as the working capital. So, when the asset side is complete with us in the balance sheet. So, then we start say looking for the sources of the funds, so we move towards the capital and liability side of the balance sheet. So, when we go for appropriations and projections in the form of the balance sheet. We create a something like that which is going to cause the cash-outflows and which are going to cause the say means require the cash-inflows.

So, it means total cash flow, outflow, inflow analysis is required in terms of say requiring assessing the requirement of the fixed assets, current assets and how that requirement will be fulfilled on the basis of the say different sources of the funds? And we convert that into, it is not a say you can call it as a Layman's Estimate. Proper your profit and loss account that is the income statement, balance sheet, cash flow statement has to be prepared.

And that all will depend up on. For example, you are going to talk about now prepare the income statement. Income statements beginning always is with the sales. And if you do not have the figure for the estimated sales for the next 10 years period of time. You cannot proceed further with the proper say appropriations and the projections.

And capital budget will also depend upon the market and demand or demand available in the market. If you know that how many units we can manufacture and sell of a one particular product. For example, you talk about say talk about say long back 1982. Karsanbhai when he thought of that if he start manufacturing the washing powder then what should be the size of the plant he should have in the beginning?

How many say quintals of the tons of the washing powder he can manufacture and sell in the market? Because it may be possible that when you go for the market and demand and the responses are very good. As happened in case of the fruit beer project. But as we come out in the market with the real (pro) say the product or the service sometime people may reject it.

Or sometime at that time because of the technological advancements, new better product has come up in the market. So, it means we have lost the investment. So, should we make the initially the small amount of investment, capital expenditure amount should be smaller or should we go for a moderate level of that or initially we are so sure about the demand that yes, in the beginning itself we have made a huge investment.

So, that all will depend up on the market demand analysis. So, preparation of the capital budget, and appropriations and further projections in the form of the projected financial statement, is the next step, after that is the implementation. Once everything is ready because when we are able to present in front of the say your say venture capitalist.

Our idea and the projected financial statement for the next 10 years we are able to explain it to them. That this is the beginning of our say the first year operations this much of the sales we are going to have in the first year. Then in the second year, third year, fourth year, fifth year, sixth year something like that and over the years the sales are going to be like this.

Once you have got the sales process, then you start back tracking now this much production is required for producing this much unit, this much size of the plant and machinery will be required, this much of the raw material will be required, this kind of the people will be required. Once all that is shown to them in the form of the projected financial statements and they are convinced with the say success possibilities of the new product or the new project.

Then what will happen? We have got the idea, we converted that into the proper detailed project feasibility report that is called as a DPFR. We presented that DPFR in front of the different sources of the finance and those different sources of the finance including venture capitalist have approved it. Let us go ahead whatever the investment you have with you fine, remaining we will make.

So, next step comes up is implementation. We will have to go for the implementation of that capital budget for that capital budgeting process and for that implementation means the certain requirements are here like adequate formulation, use of principle of responsibility accounting and use of the networking techniques are some important requirements here.

When you go for the implementation, adequate formulation means we have means done the proper preparation when your dummy financial statements are in front of you, you know that what kind of the plant building and machinery are required, so we are going to arrange for that. What kind of the materials are required? Raw material are required we are going to arrange for that.

How many or what kind of the people have to we hired, we are going to arrange for that. So, it means when we have already formulated a proper DPFR. So, it means adequate formulations have already done. So, implementation is not an issue. Then once we create any organization, we use the concept or the responsibility accounting that that firm.

That business organization that business undertaking which is created. That has to be divided into different units and sub units. Which are sometime called as departments and sub departments. So, people have to be made responsible for the different departments and there processes. There comes the importance of the responsibility accounting.

There comes the say the importance of responsibility accounting. In my another subject which I have offered through this NPTEL through Swayam, Management Accounting, there I have discuss the concept of the responsibility accounting in details. So, responsibility accounting and entails that say making the people responsible of the different units and sub units of a larger organization.

And holding them responsible in case of any good or bad performance. If the good performance is there of that unit or sub unit appreciate their performance, if their performance is going to be bad then you have to take care of that and you have to say advice the people that we are not going in the desired direction.

Similarly, we can use the say networking techniques. Especially when the project in the building stage, we use the networking techniques. You must have heard about the PERT and CPM - Program Evaluation Review Technique and Critical Path Method. Because if we make use of this PERT and CPM networking techniques then the project can be completed within the stipulated period of time.

And we have plan, for example, if we have planned that with in the 0 year, in the current year total risk completion, construction process has to be over in the beginning of the first year from the first day of the first year. We will have to now say make the, we have to commission the project. So, it means with the help of the networking techniques.

Especially when the project is very large in size with the help of the networking techniques. We can complete that construction process within given amount of time. And finally, we can start the production or may be the commissioning of the project can be possible on the first day of the year 1. So, implementation means start building about the that project and then say holding the people responsible during that even the building process also and even later on also.

Once it start working then the people are different people are responsible for that and then we can use the networking techniques. So, that the completion of the project building of the project is on time. Last step in this is the performance review. And or other way around you can call it as the post completion audit.

When you talk about the say performance review you answer some important question. One important question is how realistic were the assumptions, second is document log of experience, then third is say helps in uncovering judgmental biases and fourth one is desired caution among the project sponsors, means this is the performance review.

Performance review that when the project is ready we have started building it up when it is already ready and even sometimes we review the performance. Even when it is commissioned also, it has started giving the performance also. Production is already there and it has started delivering the goods. We have started manufacturing and started selling it in the market.

So, we make a then the post completion audit or the post completion review that when we started building this project where we started from, where we have reached now. We started from the scratch and now it has started manufacturing and we have started manufacturing and delivering the goods to the people. So, how means what is the learning process we had in this?

Especially in case of when it is a new project, the entire organization is new, all the sponsors are new, they have come up for the very first time in this kind of business, for them the post this say completion audit or this performance review is very very important. For them this performance review is very very important.

So, it means they can, they can look back after means once it has taken the shape and the production started. So, they can look back and they can just start means taking a stock off that how realistic were there assumptions. They thought that land will be available at this price. Then the building will be ready by this much period of time.

And then we will be able to do hire the people within this much period of time. Raw material suppliers will be say very much cooperative and good quality of the raw materials will be available. So, this all are assumptions until, unless you practically start making use of them. But once we have now giving means we have already given the shape and the production has already started.

So, now you can start looking back. How could be get the land? How the production, this construction phase was undertaken? Then how, now the raw material available in the market? And how means people who are working in the organization, how they behaving and how they are responding? So, it means in the beginning we had some assumption. We go for converting that into the real thing and then we start making the say evaluation.

So, it is basically comparing the your say your standardized performance. Your budgeted say estimates with the actual performance in the market. And trying to find out the variances. Document log of experience, it means when you go for the post completion audit. We complete, create a full-fledged document that now means if same team of the people.

If they have to build the new project. Similar kind of the new project it will be very easy for them. So, that is why when we want to bring the say we want to hire the people for them management of any new organization. We like to bring the experienced people so that they know, how to run a particular kind of organization and how to draw the best results out of the given say kind of the investment.

Helps in uncovering judgmental biases. Sometimes what happens that people they know that one particular thing is going to happen in a given fashion, but still they means become bias towards that, they say no, they know that normally the land is available at per (())(31:29) will be at this much of the price, in this particular area. But sometime they over estimate it or the they over price it or they underprice rate while estimating the price of the land.

And then they can find out that what was the difference? That what was my judgmental price and what is actual price available in the market? So, those biases can be removed and finally we means because now we have given the shape to that project. So, now we can say that what most arcuate and the most possible best thing is there.

We have done that and if we have to redo this thing in future also, we have to expand this project or create a similar kind of the new project. We know how to do it and what are the requirements.

And desired caution among the project sponsors. It tells us the points or that decision areas where we were not very comfortable.

Because we thought everything go as planned in the beginning but sometime it may be possible that the raw material is not available or was not easily available in the beginning, or sometime a particular technology was not available in the beginning and whatever the technology we had from the market that did not respond very well.

So, sometime it became risky also that the output of the technology was not up to the mark or sometime the prices we thought the people would pay, they means did not respond with that much of the price. We have to reduce the price also. So, it means important cautions also come in the mind. Means that experience of the fruit beer project of the anchor.

If we talk that group of the people, who had that experience a long times back, about 20 years back. If we meet the same team of the people they would be able to give us a very very important cautious points, or the points of caution that if you want to go into this kind of the project for manufacturing the fruit beer or that kind of the product in the market, be careful this are the cautions, go ahead there might be demand for the fruit beer now, it was not there 20 years back. It may be they are in the market today but be careful this are the points of the caution.

So, these 6 steps make the capital budgeting process complete and means if we know this process very carefully, very cautiously and we learn what are the pitfalls going to be there and if we go ahead in a very careful manner then certainly we can say our investments proposal is going to deliver the desired results, and whatever the investment we have made in the market that is going to be, going to be very very productive and useful investment.

So, furthermore, this is just the beginning of the capital budgeting process. Furthermore about the capital budgeting say for example, next thing is the project classification.

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So, different say projects are there mandatory investment, replacement projects, expansion projects, diversification, research and development and miscellaneous projects this all.

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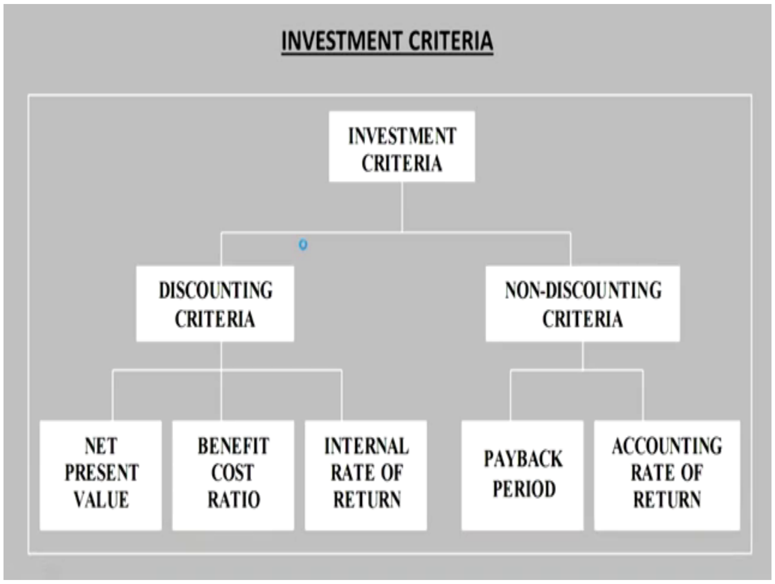

And then we have the say very important thing which we will discuss start talking about the investment criteria. Discounting criteria, and non-discounting criteria, so all these things means these are the techniques of the capital budgeting and here are the some different types of the projects. Which we can undertake if we want to go for the say identification of the new projects or really into the capital budgeting process.

So, all these discussions means starting from the project classification to the say the investment criteria and the different say capital budgeting techniques. All these we will learn in the say in the subsequent classes, in the subsequent lectures. So, for this class this particular lecture, I would stop here, so we could discuss here the say in detail.

What is the capital budgeting process? What are the different steps involved in this capital budgeting process? And always be careful that it as a student of finance these steps are very important. So, whenever we want to make for any kind of the we want to make any kind of the capital investment or we want to advice tomorrow any firm or anybody for any kind of the capital investment.

We have to be very very careful about the say this step, this process of the capital budgeting, all these steps involved in the capital budgeting. So, that desired results maybe attained from any investment proposal. So, I will stop here and remaining we will discuss in the next class. Thank you very much.