Business Analysis for Engineers
Prof. S. Vaidhyasubramaniam
Adjunct Professor, School of Law
SASTRA University-Thanjavur

Lecture-10
Preparation of Financial Statement

Good morning class, in the last class we saw how the entries that were created following the principle of double entry bookkeeping, how they were aggregated and finally created a closing balance for each of the accounts. And then as an interim measure we also check using a trial balance to make sure whether the aggregate of the debits is equal to the aggregate of the credits and already I explain that the trial balance does not exactly tell you that all the entries that you have made is correct.

It tells you that the entries that you have made is correct to the extent that the total debits=the total credits and hence you can go ahead under the assumption that the fundamental concepts the accounting principles have not been violated. That is a even if you around the right side still your trial balance will show debit=credit, but then when you go ahead somewhere when you create the other financial statements.

That the balance sheet and income statement that the errors that you have been inadvertently made will show on, but for the moment assume and not only assume I think all the entries that we have made we have not violated any accounting and we completed the trial balance we did understand how the debit equal to the credit and hence at this decision making point we take the decision yes.

Everything is correct and let us go ahead and what do you mean by going ahead, we have made all the entries, we have recorded all the entries and last class explain some adjusting int it, I gave you 3 examples the depreciation expense, the prepaid expense, the accrued interest and interest stable. These are all examples of adjusting entries, there are only type of adjusting entries.

These are some example of adjusting entries, but in real life when you encounter such business activity there will be other types of adjusting entries beyond is the all of them will be treated as a case demand and then before you go ahead preparing the other financial statements we will record is adjusting entries just as with it for depreciation adjusting type. Now after the adjusting entries are made the next step is to see how we have to prepare the financial statement.

Let us begin with a balance sheet and income statement first, the trial balance that we saw last class was list of all the accounts and if you go back to your class notes you will see list comprises different types of account, that you would cash, you would see accounts receivable there, you would see sales revenue there, you would see wages there, so you understand that the trial balance compresses a list of accounts which are either from the balance sheet category or from income state category.

And within the balance sheet can be for the asset side or liability state, is from the income statement between sales revenue and other expenses. So in actual at trial balance would have more or less listed all the accounts which either fall under the balance sheet or under the income statement. Now you understand that a balance sheet and income statement is hence an extract of those accounts which have been listed in trial balance.

And you notice in the trial balance we have not recorded those adjusting it, so we need to add those adjusting entries for which we have already made the debit and credit entries has issued in last class how we recorded the depreciation, depreciation expense and accumulated depreciation. So from the trial balance plus the adjusting entries we are now in the position to create a balance sheet and then income statement.

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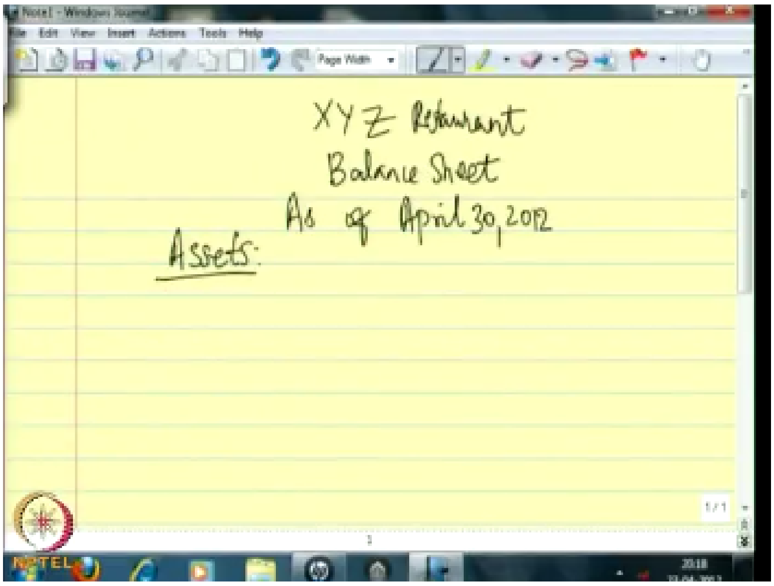

Let us first start with a balance sheet, how do we create balance sheet, in the first few classes I had given you are nomenclature the common understanding, the normal set of rules that is followed when we actually create a balance sheet that begins with writing the name of the firm. In this case we said it is a restaurant x, y, z restaurant and I told you that we are going to create a balance sheet. So this is a balance sheet.

Balance sheet as of April 30, 2012 you was remember we recorded all the transactions for a given particular month in this case we assumed it to be April 2012. So this is the balance sheet of x, y, z as of April 30, 2012, now the balance sheet begins with recording those accounts under the assets categories and liabilities categories.

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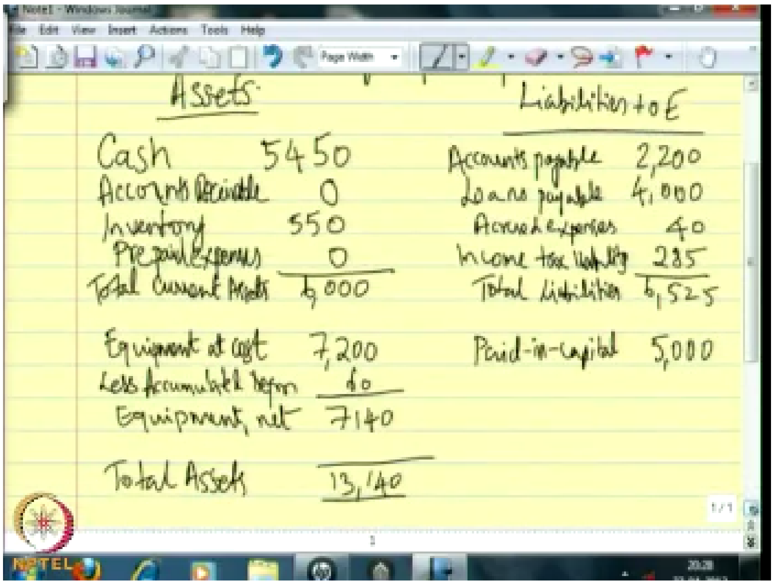

Let us begin with assets, trial now under the category there are two types the current assets and fixed asset. So let us begin with current assets. In the order of liquidity we start with the current asset that is most liquid and I explained you that cash get the first position in that order of liquidity, so we begin with cash, what is the responding value that needs to be recorded here.

It is nothing but your closing balance which is available in the trial balance that be created and what was the closing balance that was available it was 5450, that is closing balance, next to cash is accounts receivable, what is the closing balance in accounts receivable, trial balance shows 0 why because within that accounting period one month whatever the form had to receive was collected.

So we have an account receivable some at some point of time during that one month and before the end of that one month that was also collected as a result of which the accounts receivable is 0, but in real time you will have some closing balance. So whatever is that closing balance will be reflected in your trial balance and that is what gets incorporated in a balance sheet in this case it is 0.

You will have some numerical value in case you have some receivables yet to be collected at the end of the accounting period. Then invent some trial balance you find that the inventory values 5550, next is prepaid expenses. Now if you look at your trial balance expenses I have some value then can remember when we talked about the adjusting entry in this case is about the rent of 750 will be paid.

At the end of this month the value of 750 the entity of the firm has derived the value. So no longer is that 750 and asset that the entity will be enjoy is actually derive the benefit of time. So your prepaid expenses will no longer be 750 or the asset value of the prepaid expenses is no longer 750 at the end of the month the value of that gets diminished to 0 and that is what we saw when we did the adjusting entry expenses so your prepaid expense.

So your prepaid expense at the end of this accounting period is hence 0 and I do not see any other current asset items in the trial balance nor in the adjusting entries that we have made which means the total current assets be 6000. So this is our total current in the balance sheet we have the fix addresses be fixed asset balance the only fix error said that we purchased was a equipment.

So the equipment and remember our cost principle says recorded at the cost of acquisition for equipment at cost in a number we purchase that for 7200. Now what do we do here. We are the end of this accounting period in this one month. We purchase an equipment whose cost of acquisition is 7200 beginning of the month and we have used that equipment.

I told you that charge for using an equipment for a period of time whatever be the period on assuming that this is a liner depreciation to that extent we will charge the entity process equipment and this we call it as a depreciation expense and since this is a straight line linear depreciation I told you that the life of the equipment is 10 years.

So the monthly charge for using this equipment is 6, so less accumulated depreciation which is 60. So what is the net of the equipment, equipment net is 7001, now where will this depreciation expense asset that we will understand in actually to the income statement, but the balance sheet side you have reduced equipment by the monthly charge that is recovered from entity for using the equipment.

That is 60, so the book value of the equipment at the end of 1 month is no longer 7200, but 7150, we had any other fixed asset, no the building that we are using its on rental basis. So we do no capitalise rent expenses because you do not want the building if it was our own building then it would have found a place in the balance sheet that is capitalised we do not consider it as a fixed asset. In this case equipment is the only asset that is being capitalised and depreciated.

So have a total asset in this case will be the current assets 6000+the total fixed asset 7140 this case 13140, what is the assets, on the other side will be the liabilities+owner's equity. Let us begin liabilities with the accounts payable, what is the accounts payable again we go back to the trial balance and see that the closing balance for the accounts payable 2200 then can we had the loans payable 4000.

And then for this loan I also said in the adjusting entries the accrued expenses which is interest that I am liable to pay on a quarterly period for that particular month is charged rate of 40 which is a liability which I have to pay not necessarily now but at the end of the quarter. So till such time this will be a liability, for next month when you do the closing entry would be accrued interest expenses whose interest is 40.

Income tax liability is 285, how did we get that. This is actually link to the income statement so when we go to the income statement I will also explain how we got that, we have not paid the interest payment income tax, we will be paying it at the time when we actually make the payment when was supposed to make the payment, till that time we treated as a liability because for the purpose of calculating income statement I have identified with the income tax expenses also under you will be paying sometime later.

And hence till such time will become a liability, so I am recording this as a liability, so the total liability is 6525. I can also probably differentiate here I can also use current liabilities and long term liabilities very long term liabilities, but this does not alter the total liabilities will still remains 6525, then its owner's equity portion in the owner's equity we can again to the trial balance using paid in capital, paid in capital is 5000 that was the owner's money that was put.

Now what is the total trial the total bill 11525, total liabilities+paid in capital 11525, so there is a difference that balance sheet is balance, but in case we have 15140 and here we have 11525. So we will leave this here, and again revisit after we finish the income statement.

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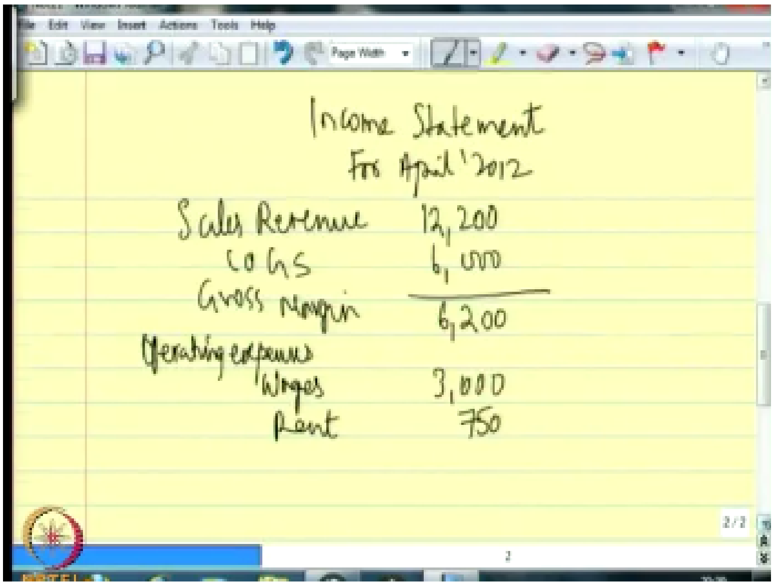

So let us begin with income statement. This will establish you can make between the income statement and the balance sheet, it is not that I am just leaving the balance sheet incomplete I know that some portion that needs to be filled but then I will be feeling that after establish to connect between the income statement and the balance sheet. Then you will understand how all the place for this is an income statement for the month of August sorry for the month of April 2012.

What is the top line in an income statement if sales revenue you go to your trial balance you find the sales revenue is 12200 and the cost of sold or COGS recorded it to be 6000. So the next will be gross margin, gross margin in this case is 6200. So a sales revenue-your cost of goods sold is a gross margin. So after that we record operating expenses. We calculate the operating expenses.

What are the operating expenses for the trial balance we see that the ways expenses incurred was 3000, the rent 750, utilities expense was 450, depreciation is 60. Now here I have treated the depreciation as X an expense, the accumulated depreciation of 60 that was in the balance sheet, the corresponding dual entry here will be the depreciation expense in the income statement, weather cash is really gone out we will answer that question is actually discuss about cash flow.

But we since we have charge the entity and accumulated depreciation of 60 using the asset or we are treating that asset depreciation expense for the purpose of an income statement. Likewise the interest expense, which is accrued expense of 40, dispenser here, now the question is I have not paid interest now, but I have told you that I will be paying it sometime later now is your next month I am doing the same income statement in balance sheet.

Because I save the interest next month will I be recording it as an interest expense is a question, a very reasonable question that will arise, no we will not read that as an expense because we already treated this as an expense in the previous month and identify that expense to be a liability that is why in a balance sheet you saw that accrued expense liability and when we actually make the payment next month what will happen is cash will be reduced by 40.

So what will we do cash credit 40 because cash is reduced accrued expense 40 reliability gets accrued expense it was 4o, it is no longer is a liability, a liability gets reduced by 40 with debit 40. So actually we make the interest payment next month, the dual entry will be cash credit 40 accrued expense have a reliability opening liability of 40 becomes 0 for which the entry will be accrued expense debit 40.

That will not alter your balance sheet because already you have an expense in the previous month, so this that is an interest. So what is the total operating expense 4000. So you are income before taxes hence 6200-4300 income tax expense is some percentage rates 285 and for my net income is 1615. Now this income tax expense of 285 is what you should have balance sheet as a income tax liability.

Just as we trigger a interest expenses and expense for that particular period but then will be paying it some likewise the income tax expense, so I am just treating it as an expense for the purpose of this accounting period and fact that I am not paid during this accounting period gets recorded as an income tax liability in my balance sheet that way does not compromise the fundamental equation double entry bookkeeping requirement this way.

So actually we pay the income tax later just as the interest expense was adjusted, likewise income tax expense cash 285 income tax liability gets reduced from 280, this is how the closing entry will be made. No I said we will establish a net between this net income and now the balance sheet. This net income is 1615. Now for this example that we have created we know that this restaurant is owned by an individual whose put own money of 5000 rupees.

So after meeting all the liability as everything we find that the net income is 1615 and this is for the sake of example an entity own by an individual, so it is the individuals the 1615 is the net income available to the owner of the entity in this case the individual it is the individuals money what is he doing is taking it back and investing in the firm. So the earnings that is freely available to the owners of the firm.

If it is got back and reinvested into the firm, already I have told you that is called retain earning 1615. Now we had all of this balance sheet balances, but the question is what if this 1615, what not fully reinvest in this case it was a very simple example where was a single ownership and entire money of the investment, one the owner would have taken it and interest his capital then my capital gets increased by that amount that it is listed company Vodafone come this net income.

We distributed some portion is dividend then what will happen is next income let us say it is x then what will happen is your net income after division this is the amount that you go and sit in your will a balance sheet balance yes why because the net income minus did not said was this bus that amount would be reduced in your cash was no longer valid 5450 introduced by an amount that was disperse as dividend for your cash will also be adjusted.

So that balance sheet no balance and whatever is the income that is available after dividend disbursement is the one that gets into the balance sheet is retained earnings between the income statement and balance sheet when the retained earnings which is the free cash for the in companies available to be reinvested into the business the balance sheet in the owner's equity.

But in the owner's money that is why I switched into the owner's equity part and then the balance sheet balance that is why I remember I told you the beginning of the class that the income statement is elected subordinate to the balance sheet because the end the end product of the income statement which is your net income is identified as one small entity in the balance sheet in the form of retained earning.

So the balance sheet that will give more information I am not saying that income statement is not important but an income statement does not convey enough financial information as much as financial information as a balance sheet would convey based on which we can take informed decisions. So this is how an income statement and balance sheet will put and i will just took a very fundamental easy example for you too understand how to prepare an income statement and balance sheet.

How in real terms nothing is going to change, the accounting principle reminder say the way in which we analyse the transaction and record them as t accounts, we reminder same, there will be some amount of subjectivity in analysing the transactions and as a result of which you might have two forms of statement for the same transaction, both can be correct except that the way in which I have interpreter and analyser transactions is different from the other perosn.

And both of them have followed accounting principles it is bound to happen as long as we are able to justify why you interpreted this transaction this way then both are accepted forms of financial statements, but the fundamental framework that you will be following for any transfer for any entity the first thing that you will do is the moment there is a transaction.

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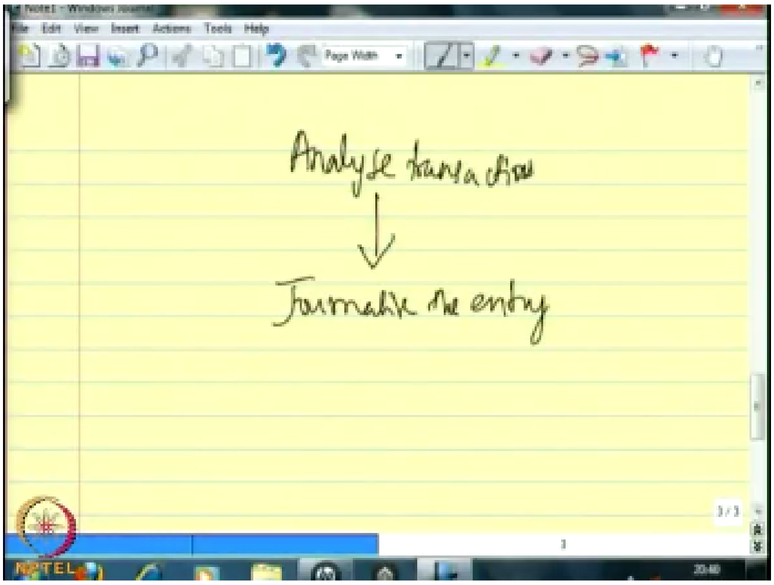

We will analyse the transaction, what you mean by analysing the transaction is a process where once you see some activity has happened and you know this is going to happen impact some account you will analyse and see what account get impacted.

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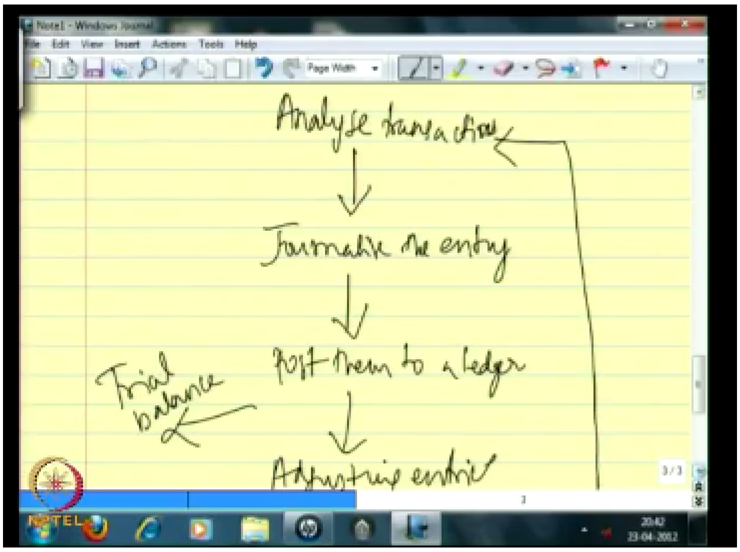

Then you journalise trial can you post them to a ledger, then you had the adjusting entries and as information you also get trial balance, adjusting entries, closing entries if there are any and then prepare your financial statements. So you get transactions you analyse the transactions on the analysis you know what type of account get affected, you post the debit, credit and then collectively identify identical accounts.

Find the closing balance after you journalise them and post them in the legislative as an entry measures check whether your debit is equal to credit by way of a trial balance and then you prepare your financial status. This is one accounting cycle, that after a accounting cycle is over what happens the same thing is repeated, the same process gets repeated. So your closing balance opening balance and then you have transactions to bank opening balance.

You will again add the effect of these transactions and again undergo the same process and again at the end of the accounting period you create financial statement. So you keep on doing this and the end of the accounting period you will be in a position to create a balance sheet Torrent this is how a balance sheet and income statement is prepared. I will encourage the class to actually create your own balance sheet and income statement.

You do not have to start a business real time to understand this, when you image that you are staring business and then different ways that you if you have certain set of operations, you can record these transactions and create a balance sheet and income statement on your own and this by this you will be able to appreciate the ways in which transaction are analysed recorded and how each of these transactions are aggregated.

So that you are able to create meaningful financial statements with a balance sheet and income statement. Now I told you that the third important financial statement is your cash flow statement, what do we mean by a cash flow state, see a balance sheet as I told you this status that indicates the financial strength of an entity. Now an income statement is a different state it is a floor income.

An income statement actually focuses on the economic results of an entities operation let us see and we understood how both a balance sheet and income statement are prepared, nwo what is the need for a cash flow statement. Now a revenue recognition we are actually recognising revenue generating task, whether cash has gone into the entity because of this revenue generation task.

We are not much concerned because the moment we recognise that this activity is a revenue activity be recognised. Likewise when we actually measure the resources that have been consumed to generate this revenue we treat them as expenses, whether cash is gone out because of this resource consistent we are not concerned not that we are not recording wait for cash to go out before we treat as expense. That also become an expense.

Because we are following an accrual method of accounting where we do not wait for cash to physically get a note to physically get out to recognise revenue expenses or principle of revenue recognition and the matching concept inform us that as long as we are reasonably certain that this is a revenue generating task please recognise it as a revenue as long as it is reasonably possible that that this will be an expense to treat as expense.

So with that understanding not waiting for cash to physically get in or get out we treat certain transactions as revenues or expenses. But that does not mean as I told you cash is going cash go down which means the cash that we see in the asset is not the income, is not the revenue that is why you see your net income is different your sales revenues different where is your cash in your balance sheet is different which means that behaviour of cash has to be understood properly.

But why do we need to understand the behaviour of cash, we need to understand that because that is the one that provide information, on three broad set of active what are these activities I will explain in detail later. But there are some activities within a firm that influences the behaviour of cash it could be a operating activity could be a financing activity on investing active, broadly these three type of activities will influence the behaviour of cash.

And remember when we discussed about balance sheet I said that is this source and use of funds view of a balance sheet that will be generate the source of finance and how it got this we will understand it when we see the balance sheet. Likewise when we see cash 5450 the balance sheet it is not there 5450 got into the pop, it means a lot of activities have happened in the firm within a given accounting period or between two accounting period.

There resultant of all these activities have impacted cash in different ways and when we analyse the ways in which this has impacted cash we find that the sum total of all the impact as final closing balance of 5450. It is not just the closing balance was 3000 somebody the cash gave in the firm the value of that was 2450 and the closing balance is 5450, it is not as simple as that could be as simple as that.

But invariably a lot of activities would have happened which would have changed the behaviour of cash and the resultant change of that behaviour is this 5450 that you see sitting in the balance sheet. We need to understand what has happened to cash, why is that resultant

5450 how is that the result and cash flow is 5450, why that is important to understand this because there are uses of this information could be internal or external.

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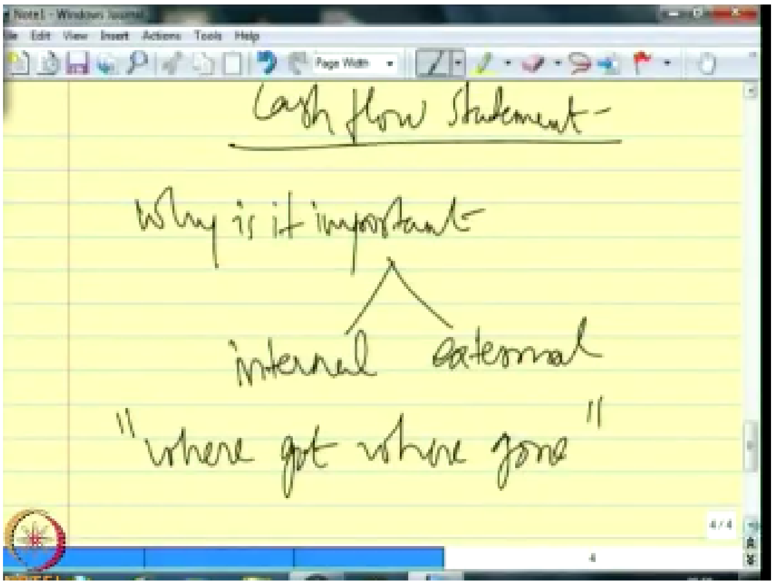

As somebody internal to the organisation I need to see whether the result of all the operating activities has actually generated cash or consumed more cash is that an operating profit or not. As an external user let us say I inverse I will see the propensity of the firm to generate enough cash that can be disbursed is divided. As a banker who has rent money to the entity I can see the potential of this firm.

I want to see the potential of this firm to generate cash to meet my interest liability, suppose there is operating loss, that the firm operation is not generating enough cash own operation then as a banker I would be concerned because generate cash coverage on operational it cannot need it bank liabilities. In the case of a shareholder I can never expect dividend. So these are different types of uses of this cash flow information.

Who will actually defect the cash movement to see whether each of the liability will be met by this entity whether this entity is generating enough cash to meet such liabilities. Mke this purpose we need to understand what a cash flow statement about. Now this cash flow statement summarizes 2 important things and this typically we save it as where got, where got are the source and use of cash between 2 accounting periods.

Let us say the we had a balance sheet end of one accounting period and we had a balance sheet at the end of the successive accounting period and each of the balance sheet you will have the cash free, so you will find the difference. Now the endeavour who prepare a cash flow statement is to understand what has happened between these 2 successive accounting period that has resulted in the difference in the cash that we see in the balance sheet.

Now how do we know that if we will know if we study what has happened to the various activities that are related the cash generating sources cash verse those that have consumed a case of the uses of cash the source and use of cash.

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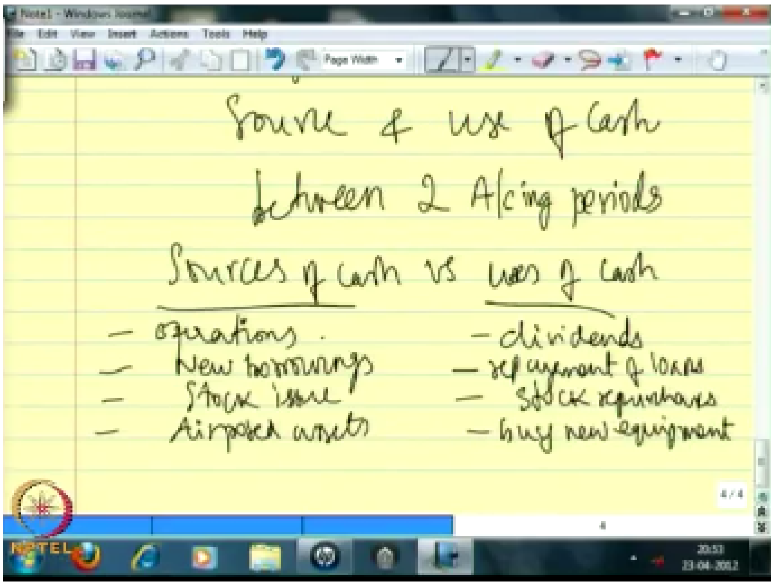

How will we do that begin to look different type of activities which are actually used cash that are actually brought in cash to the firm because of various operational activities, some new borrowing, stocks could have been issued or you have disposed assets that could have gotten cash, likewise the use of can could be to pay dividends, repayment of loans, probably could have used cash to retire some stocks, stocks repurchases, buy new equipment.

You will have different activities that affect some of the account categories which have a direct bearing on cash either could be once that have consumed the cash or once that have generated cash to the firm. So we need to see how the opening cash and what has happened during this accounting period and why the closing cash this way, so when you make a cash verses cash comparison between 2 successive accounting period.

A cash flow statement will capture precisely the influence of certain activists on critical account which would be operating investing or financing activities and how that has changed the value of cash from what it was during the time of the opening that is the beginning of the accounting period and what has happened during this accounting period the end of the accounting period as a result of what has happened how the opening cash balance has changed in.

And how we have arrived at this closing cash balance. So for this for the purpose of easy understanding I told you the activities are divided broadly 3 categories the operating activities, the investing activities, the financing activity. So next class we will sit and understand how when we take the balance sheet between 2 accounting period and make a comparative analysis of each of the account categories that have a direct bearing on cash.

And understand how this has changed the behaviour of cash, whether it has increased or decreased whether consume cash of generated cash and the summation of all this plus the opening cash balance has to necessarily be the closing cash balance for the successive accounting period that you see in the balance sheet, will that happen if our understanding, if the way in which we are doing this analysis is correct which means if our cash flow statement is correct.

Then you will see that the ending cash balance in the balance sheet for the successive accounting period can be obtained by just taking of the previous accounting balance period and analyse the impact of during the accounting period accounting period and added to the opening cash balance it will definitely match to the closing cash balance that you see in the balance sheet, how we will see that in next class, thank you.