Business Analysis for Engineers
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Lecture-04
Balance Sheet Fundamentals

Good morning class, last class we cover the first 5 concepts of accounting based on which the accounting principles was framed. Those were the concepts of money measurement, going concern, entity concept, cost concept and the principle of duality. Now I thought before I go to the next 6 concept I think there is enough input is already given for you to understand what a balance sheet is based on these 5 concepts.

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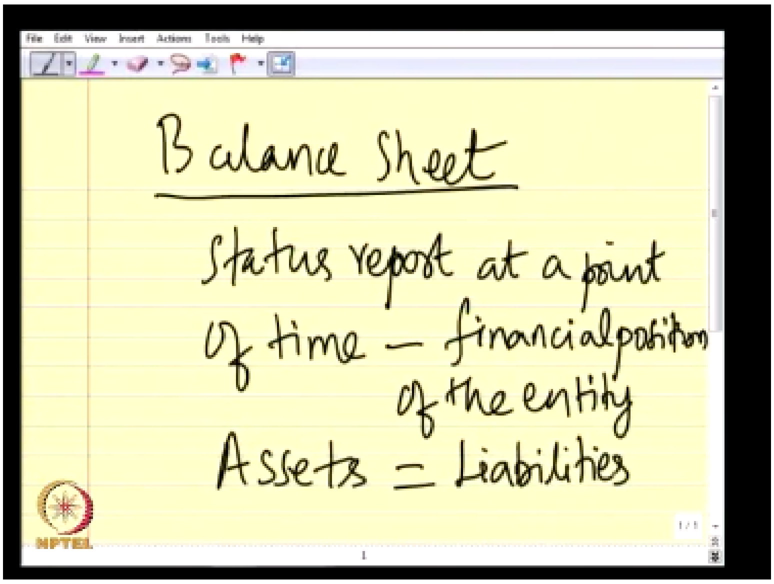

So before we go into the 6 concepts remaining 6 I just give you a quick overview of what a balance sheet is and how you view balance sheet as a critical financial statement. Now I have already told to the class that a financial statement that shows the financial position of an entity at a given point of time is a balance sheet. So balance sheet as I told you it says it is a status report.

Status report at a point of time based on this we can understand the financial position of the entity. Now how do you understand because the balance sheet reports 2 entities namely the assets and liabilities and I had told you last class lessons will definitely be equal to the liabilities. Because that the underlying basis of a balance sheet. So you should not be surprised looking at a balance sheet and that the assets is equal to liabilities.

There is nothing significant because assets definitely have to equal the liabilities. So a statement that reports both assets as well as liability is based on which one is able to judge the financial position of an entity is called a balance sheet. Now a balance sheet has specific nomenclature or a balance sheet has a specific structure a specific form in which it is been expressed.

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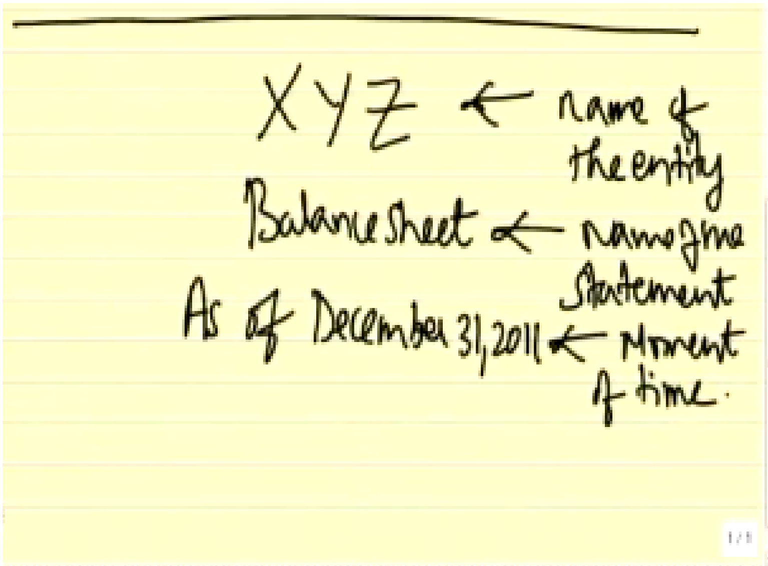

Let us say for example I am going to write a balance sheet for an entity firm X Y Z. So what we typically do we write the name of the firm X Y Z, so this is me name of the entity and does not see were talking about balance sheet we write that statement that we are going to create is the balance sheet which is the name of the statement and balance sheet I told you its report at a given point of time.

So we need to know at what point of time are we creating this balance sheet as on which date are we creating balance sheet. So that is why you would see in various balance sheets that there is a specific date that comes along with it as of let say December 31, 2011. So this is the moment of time. Now this typically constitutes the heading of a balance sheet.

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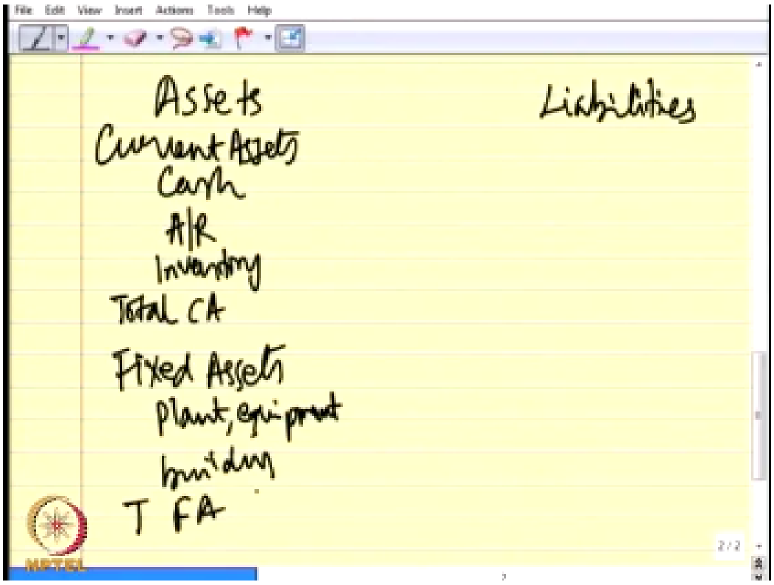

So XYZ balance sheet as on 31/12/2011. Now let us see how balance sheet in terms of some of the concept that we already covered last class, let us see how the balance sheet appears to those specific concepts. Now balance sheet is typically represented as I told you before to show the assets and liabilities. So let us say we going to report assets on the left hand side and liabilities on the right hand side you can also report as such the top as well as liability is at the bottom there are two ways of reporting are present in balance sheet.

It begins with current assets and will explain what this current assets, what is current liabilities and all those terminologies later. But just for the purpose of understanding what a balance sheet is just a current assets, cash, account receivables, inventory. So this will be total current assets and then you have fixed assets in a balance sheet which will be plant, equipment, building.

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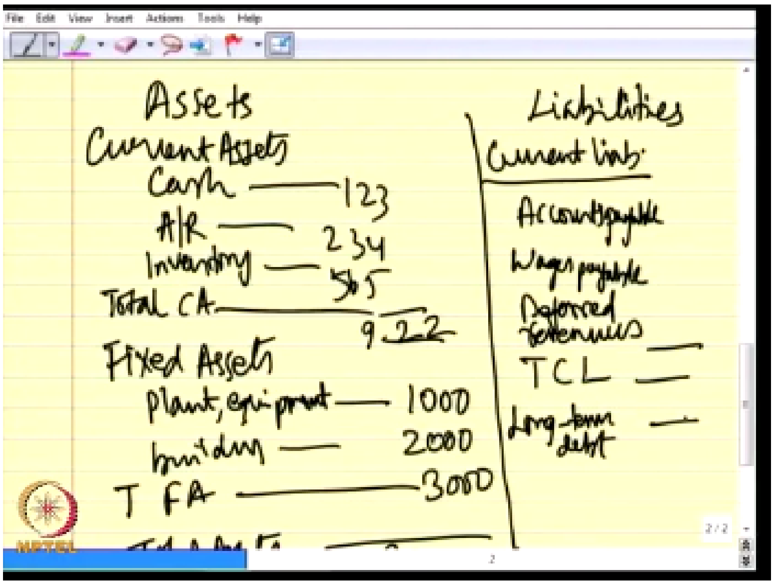

So total fixed assets and then finally you have total assets which will be your total current assets+your total fixed assets. So all of this will have some number that is 123, 234, let us say expressing the 1000s. So that also be indicated in your new title of the balance sheet for the sake of simplicity and just writing 3 digits 565. So the total of these three will come here that is 12 and then again let us say you have plant and equipment 1000 building, 2000 total fixed assets is 3000.

So the total assets will be 3922, likewise on the liabilities you will have the current liabilities which comes in the form of you know account table and then you have let us say wages payable, you have a deferred revenue. These are all current liability items, these are current liability items and then you have total current liabilities and then let us say you have long term debt.

And then in the liabilities you will also have another section called shareholders equity. Shareholders equity which comprises of the owners, capital, retained earnings, I will explain of this later and then the total liabilities which should be equal to your total current liabilities plus long term debt+shareholders capital. So this will be a number which definitely will be equal to 3922 just for the sake of understanding in this leaving this unfilled.

But a balance sheet as the name clearly suggest will give you a statement that equates the total assets to the total liabilities. The point I want to just highlight here is that lets you have a balance sheet and forms in terms of the concept that we covered last class. All the even is expressed in terms of money that is the equal concept of monetary measurement. So you can see that all of this is express in terms of money.

So you cannot say no accounts receivable 10 tons of Apple that you sold that cannot be in your balance sheet, for inventory you know 10 kg of some form of inventory lying in the garden. So that again not a form in which we express and inventory in your balance. All of this gets converted into a monetary measurement. So all these get monetized. So the first principle is that you can very clearly see that all of these are expressed in terms of money.

And the entity involved here is X Y Z. So that is your concept of entity ,the entity concept and do not explicitly stated in the balance sheet it is assumed that this is a going concern, it is very unlikely that you will find the density state is going concern, but it is taken that it is going concern. Then the cost concept is also followed especially when we spend more time on this fixed portion.

What we usually do is the plant equipment that value of 1000 that should be recorded as cost of acquisition, let us say you bought this equipment for 2000 rupees and the cost of acquisition gets first return cost of acquisition 2000 and let us say 5 year since we purchase then less accumulated depreciation is already what I told last class what is acquisition is as a man an equipment get used the charged the equipment the specification value and the specific charge that is depreciation.

So we it was purchased at 2000 and now the value of the equipment, the book value of equipment is 1000, that means in last 5 years the equipment has been charged some of the rupees 1000 and let us say we are having linear depreciation which means every year the cost of depreciation is 200, so the cost of acquisition 2000, now the value of acquisition is 1000. Though I have not recorded the cost of acquisition which actually I should have.

Before this you should see in balance sheet that they would record the fixed assets and the cost of acquisition in this case 2000 and then less accumulated depreciation 1000 and the resultant value is 6000. That is the principle of cost concept. The Other aspects dual aspect which is very evident from the fact that the assets is equal to the liabilities and I already told you that you know I should not be surprised that gases is equal to library.

Because the principle of duality means that the assets has to equal to the liability because for everyone that we record as an accounting transaction with impacts in 2 days. So that the assets liabilities the fundamental equation does not stay compromised. Now as I told you this can be expressed in two ways, asset on left hand side and liabilities in right hand side or assets on top and liabilities at the bottom.

To express in left, right fashion it is called account form to express in the top down format it is called the report form, so this is the account form and if it is topdown it called report form of expressing a balance sheet. Now there are 2 views of looking at balance sheet.

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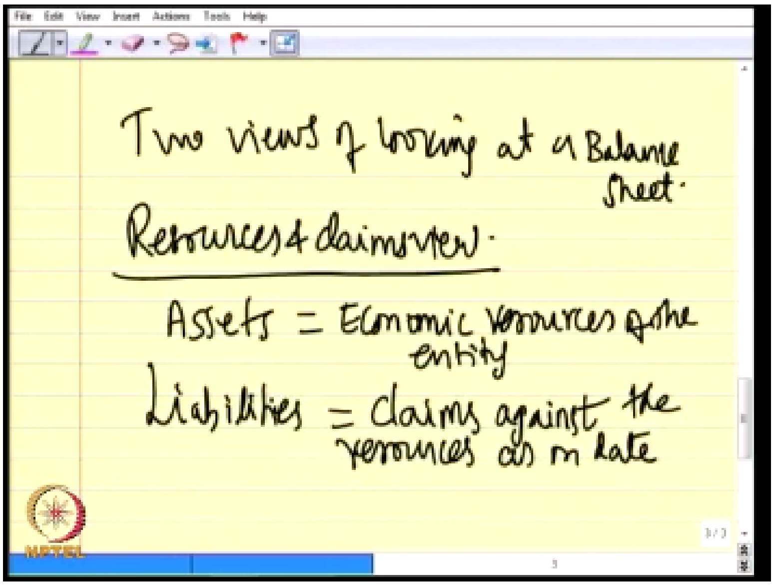

Two views of looking at a balance sheet, and both the use acceptable use, expect that the way in which we look at the balance sheet it was a little bit. The first plan is the resources and claims view. Now this understanding this resources and claims view of understanding what a balance sheet is one way in which when you look at the balance sheet you see the items on the assets side.

These are economic resources of an entity. So the asset is equal to the economic resources of the entity. In this case we just wrote it was X Y Z. So the economic resources of that particular entity XYZ. The liabilities which is in the right hand side is the claims against the resources and since it is a balance sheet is a claims against the resources as on today.

Suppose this is a balance sheet today what is the claim against each of the assets on the balance sheet what do you mean by train so the liabilities are claims of outsiders, it could be anybody I mean those who have a claim against the asset and invariably could be the banks we should have given the entity some money or you could be the owners themselves also put in their own money to start the business.

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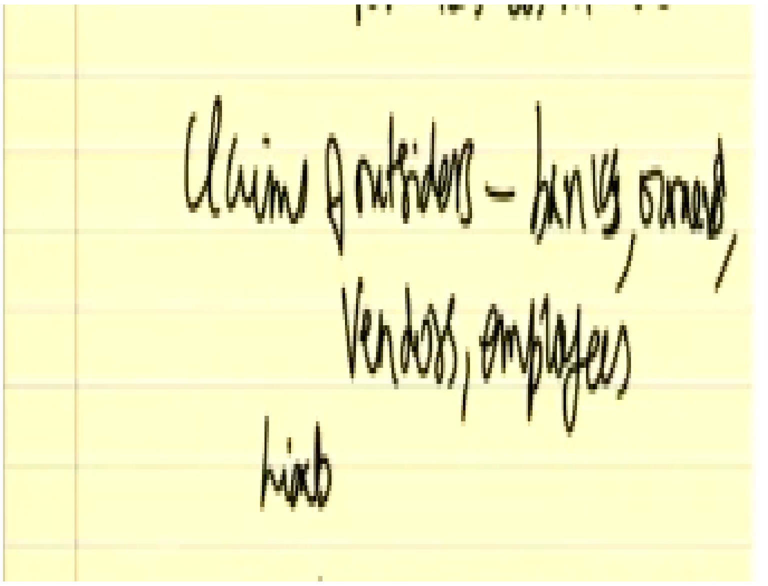

It could be vendors to whom the entity owns money, it could be even the employee to whom the entities own wages, salary etc. So there are different sources of this claim against the asset. So in this view which is called the resources and claims view, we says that for every assets that is created, that you see in the balance sheet, that is a liability partner who has a claim against me assets that has been created.

Now the liabilities I told you last class has two components, liabilities will have the shareholder liability or the owners liability as well as the other liabilities in the form of banks, accounts payable the benders and other creditors. But you was understand that the owners do not have a claim in the same sense us the creditors have, just a quick example for you to understand.

Let us say in the balance sheet that we discussed, suppose there was another current liability item call taxes payable and that taxes payable was let us say 100, so not a penny more or a penny less than 100 is the amount that the firm the entity is liable to pay, to that extent that we can say that 100 has some specific claim against an asset creators here and that specificity is not more or not less than that 100.

To that exact amount we can say that taxes payable is a claim against an asset whose values 100, so the question is whether we can in the same exactness say that the different planes have the same level against the assets that have been created. Let for example say that the shareholders equity share, the shareholders equity total is this entire total is around 1000. So the shareholders equity less 1000.

Now let us say that the entity is going to get liquated, now the shareholder equity of 1000 means that in the event of liquidation if all the assets on the left hand side is sold at the book value it is been recorded and if all the existing liabilities are met which means I am paying the bank loans and I am paying all my existing accounts payable. So all the claims against the assets are met and then finally the shareholder receives 1000.

So that is the meaning of shareholders equity being 1000. But in real sense does it happen, so there is a lot of if first on liquidation, if the assets are being disposed at book value, if I am able to meet all the liabilities and after meeting all the liabilities the shareholder get this 1000. Now this if condition could be and realistic during different circumstances like say for example the shareholders equity, the book value what we see here is a book value.

Suppose let us say that this entity has got the tremendous growth opportunities. So the shareholder equity could be greater than the book value that we see in the balance sheet. If the entity has tremendous growth potential because remember last class I told you that the value of the shareholder equity in balance sheet is the book value, but the perception that the value of the shareholder equity could be more than the book value.

In this case because there is a great potential for the entity to grow, so the shareholder equity could be more than the book value and hence what you see that as 1000 in the book value need not necessarily be what the shareholder will get, in case he decides to sell his text in this entity.

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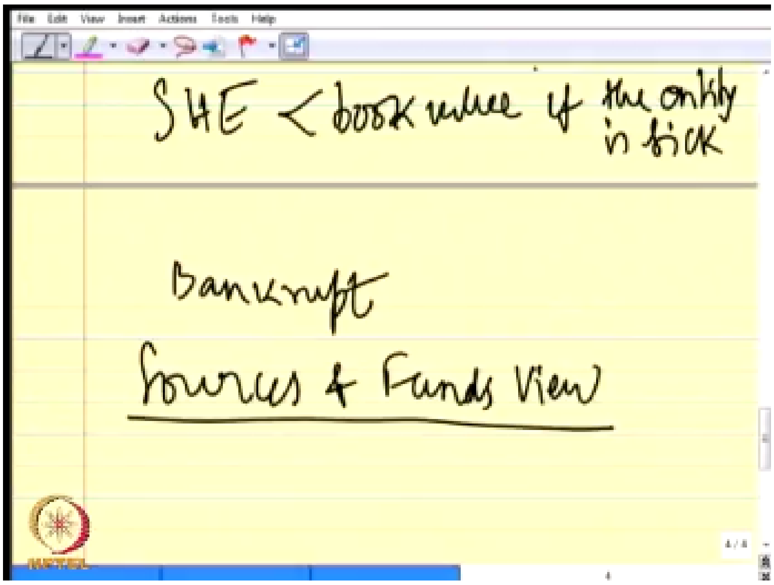

It is also possible that the shareholder equity is less than the book value let us say the companies is in sick, if the entity in sick, so I would not even accept that the book value itself is a share it is a fare value of the shareholder equity. So that could be instances where even the book value is exactly not the shareholders fair value even less than that because the entity is sick and there is very unlikely that that is tremendous growth potential in the entity.

Let us say even a worst case scenario where the company is bankrupt the shareholders equity even if dispose all the assets there might be instances where are the stages of bankruptcy, the access disposed would not have generated enough resources to meet even the liability is like banks or accounts payable or other forms of liabilities live alone shareholders equity. So different stages or different perceptions of what could be the true value of shareholders equity.

And hence whether these resources and claims view is the best form of viewing a balance sheet becomes a genuine question and a lot of care no this is not necessarily the only way of giving a balance sheet, but that does not mean that this is not a correct way to view a balance sheet that is also another way in which you can give a balance sheet which is the sources and funds view.

The previous one was the resources and came to which is very clear that the assets is created has somebody on the right hand side on the liability side who has a claim against the assets.

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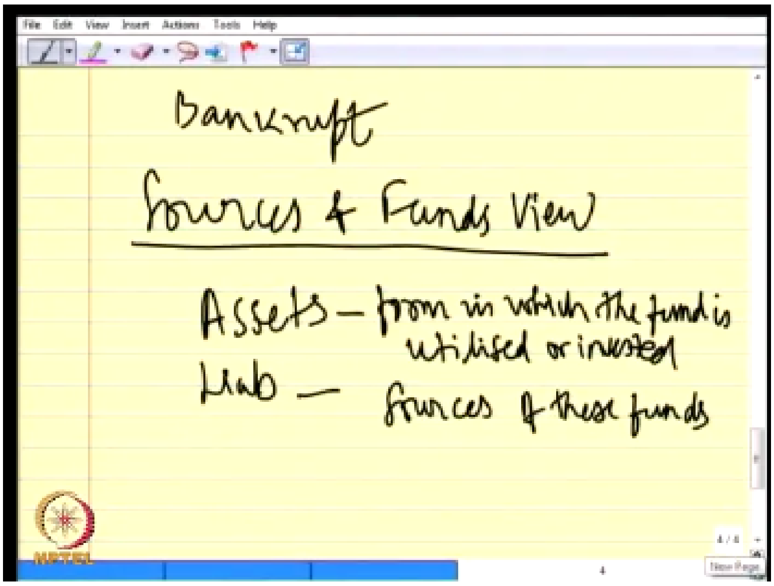

The sources and funds view is that again it got to do with the assets and liabilities, it says the acid represents the form in which the funds is utilised or invested. The liabilities represents the sources of this funds which means for every one rupee asset I create by get that 1 Rupee from that from the liability side. So both views are correct, both views weather resources and claims you are the sources and funds you both views are correct.

But for easy understanding resources and fund review because it very clearly says that the asset represent the way in which all the funds that were received have been utilised invested and the liability is represent the sources of these funds where did I get these funds from did I get it from bank, did I get it from raising money in the stock market or the fact that I did not pay my vendor money.

But still manage to get some inventory see my balance sheet is an inherent source of all the accounts payable is a source of fund and hence the liability. Because I have not paid the vendor I am deferring my payment so it is an inherent fund that have generated. The result is that I have utilised that to get some inventory which shows up in my asset current assets as inventories.

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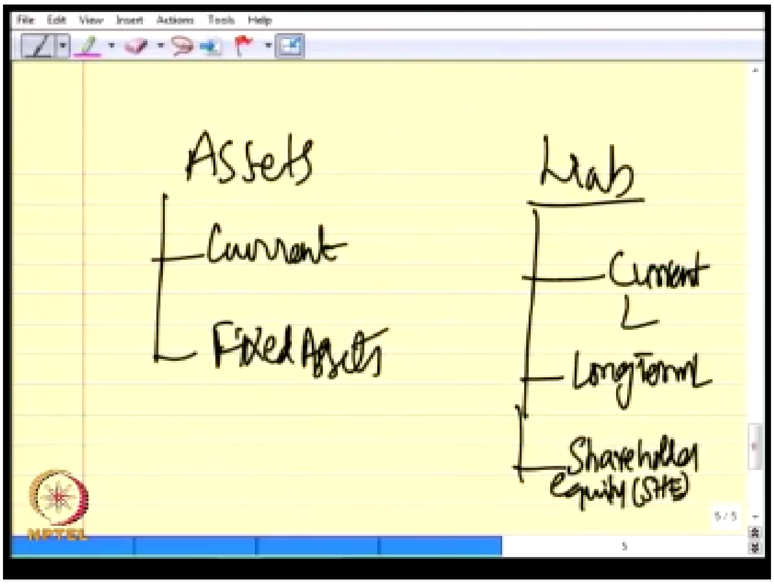

So both forms are acceptable except that the sources and confused more convenient and comfortable to understand. Now if you look at the balance sheet, a balance sheet as I told you before is categorised, assets, liabilities. Under assets you will have current assets then fixed asset. Under liabilities you will have current liabilities, long term liabilities which is debt bank loans then shareholder equity, I will be referring to SHE.

Now this categorisation is done for easy understanding identification, you can also present a balance sheet by just recording all the assets you have a value total value record or liabilities you have a value total value, both of the values will equal, but then for easy understanding and financial strength of the entity you categorise these accounts, so current assets, fixed assets. All these category heads will have under them different subcategory.

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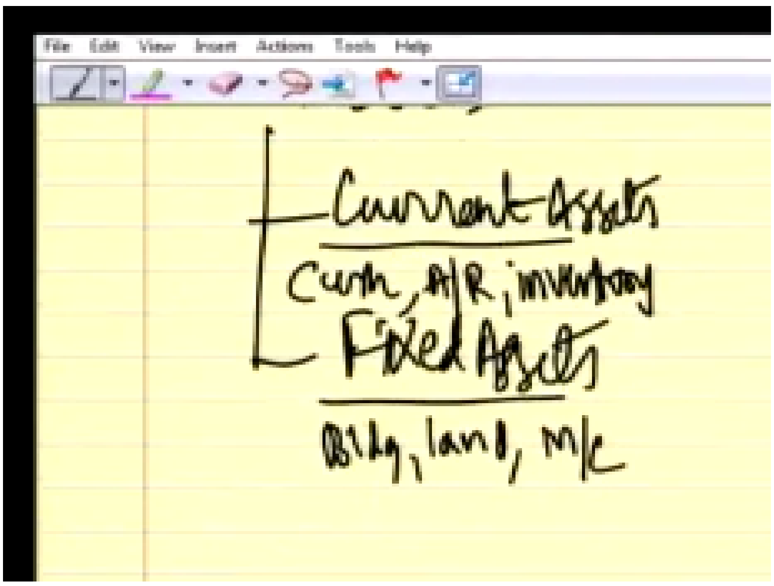

All the subcategories will be identical to the extent that they are current assets, likewise also categories of asset should be identical to the extent that they are fixed assets and those subcategories let us say for example cash or inventory. So those will be the aggregate of all those individual events that are identical to this subcategory. I will explain that in detail later, but for you to understand you should know that such categories under each of these are created.

Cash, account receivable, inventory etc. likewise here building, land, machine, share accounts payable, wages payable, dept, retained earnings, paid in capital, etc. So these are sub categories and under these subcategories and represent the aggregation of all those identical events that have happened that relate to the specific subcategory let us for examples accounts receivable.

So these are identification, aggregation and then title the mantra specific subcategories and then group the mentor a bigger category current assets and then proceed this way you will easily understand and interpreter balance sheet by creating the subcategories. Now the assets of a balance sheet I told you that an asset is an economic resource let us just text in this definition a little further that is controlled by an entity.

Now we are getting into the final details of what qualifies an asset control by an entity whose cost acquisition is objectively measurable, so key words has to be an economic resource should be controlled by the entity it has to be objectively measurable. So what do you mean by economic resources. It means that an asset is an economic resource if the entity derive the future benefits like cash or benefits that can be easily converted to cash or it could be inventory is finished or working process that can be converted to finish good.

And then sold to generate cash or it could be equipment which can be utilised in future. So this equipment can be used in future for activities which will result in finished goods which can be sold to generate cash. So broadly an economic resource is one that can generate cash or can be converted to cash and hence qualifies to be an asset. The second key point is that it has to be controlled by the entity which means let say you did the building that the entity is operating is on a 25 year lease.

Then I can assume that this building is an asset to the entity, as against using a different economic resources which should not owned by the entity that says been nice for short period of 6 months or 10 month or less than a year and then I cannot say that I own this entity because they leave duration is very short term which means I do not have direct control on this entity the ownership will pass after the end of the lease period it gets transferred.

Under the circumstances I do not treat this though it can be used to generate cash I cannot treat this as an asset because I do not directly control the asset or I do not own this particular asset and third thing is that it has to be measurable objectively. So I take cash to buy an asset and I trade my existing asset to get a new asset, that is measurable because a existing asset will have a value then new asset that I get traded for this particular value

The question is whether it is measurable or not, it is measurable because the existing value of the asset that are used for trading has a measurable value or I could probably sell shares capital that is also measurable, as again suppose I have gained a reputation I have been in business for 25 years and have gained a reputation it can be an asset to the entity, but very difficult to objectively measure reputation of an entity.

So I cannot record that as an asset item it has to be a measurable item and also let's say if I purchase building I used 30000 rupees off my money and then 70000 rupees I borrowed from the bank and uses 100000 to 50 small building. So it is not just the entities the owners contribution in creating asset needs to be measurable, it is both my 30000 as well as the money that I got from the bank 70000 that also needs to be measurable when there is some objectivity in measuring the acid that we have created.

So asset will have three important elements that it has to be an economic resource, directory controlled by the entity and objectively measurable at the time of its acquisition. Now I told you that there are account categories that we create in a balance sheet. Let us begin with current assets.

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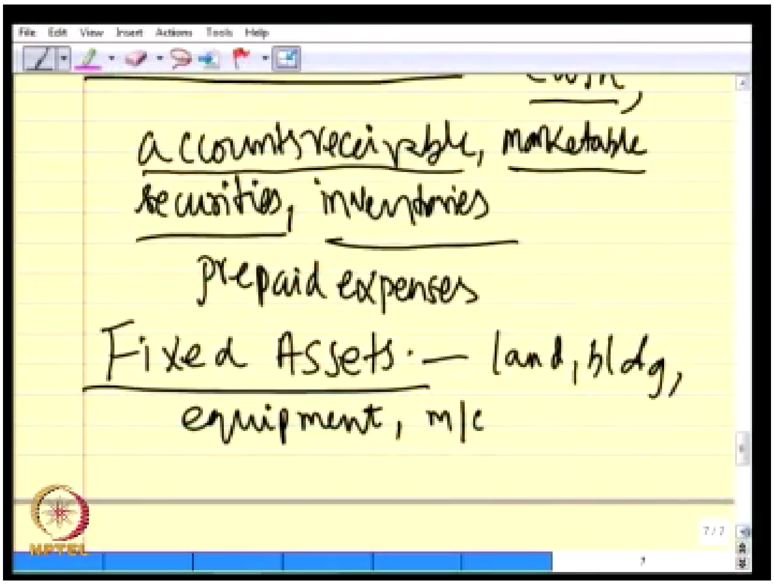

What is current assets mean current assets or type of asset categories that can be consumed within 1 year, less than a year, let us say for example cash or accounts receivable or marketable securities, marketable securities or cash equivalents short term investments or inventories. So current assets are the ones that are recently expected to be realised in cash or sold for consume during the normal operating cycle in this case less than 1 year.

That is the case then it can be classified as current assets. So for example cash is a current asset, there is no current asset more talent than cash budget is cash it is not cash ones that are readily available for disbursement for whatever purpose it maybe. Next could be marketable securities and just trying to explain this to your order of liquidity, cash is the most liquid form of marketable securities that say you have a short term deposit in a bank.

So can be easily converted into cash or accounts receivable, what is account receivable supposed to say and there are times where I record and save and that I do not receive money for the sale that I have made, but the same time I know that I will be receiving this money within a reasonable period of time in the future that amount that I have to receive would appear under the heading accounts receivable.

Then terms of the liquidity, cash marketable securities and the next liquid is that suppose I want this money I have cash I have marketable securities converted to chat still I do not I do not have enough cash to meet some of my commitments, the next current asset that can be converted into cash is my accounts receivables. Then is inventory that is also current asset, inventory is could be indifferent like purchasing a raw material or some raw material would undergone some process.

And it is in the stage of being process in to finish good, so we usually call that are working process or an inventory that has been converted into finished good but not sold. So all these se inventory classes are current assets because they can be sold at some point of time to be converted into cash and hence it is a current asset, why is it in the order of liquidity next to accounts receivable or cash marketable securities.

Because you cannot reach to cash in raw material as raw material for some price raw material needs to be converted into finished the finish cause we can be sold and then your sales should generate cash. So in the order of liquidity it will be always cash, marketable securities, the account receivable, inventories. Also you might have some prepaid expenses which can also be your current assets.

And usually these are intangible in nature. For example an insurance policy identity pay some amount for an insurance protection in advance and let us say 25 year insurance cover and at the end of 1 year let us pay around 250,000 for insurance for 2 years and 1 year has gone, now what happened to the amount of this current accent at the end of 1 year which means no longer is 250000 the value of the insurance that I paid 1 year back.

One year has gone, so the prepaid expenses of 250,000 which is the cost of the 1 year protection that I have enjoyed all in one ear protection that is remaining to prepaid expenses at the time of purchasing this in advance is a current asset whose value will keep reducing proportionately happen when you start losing the benefit of paying a advance to get that current asset.

Now just as we have current you also have fixed assets, these are assets that are tangible and relative long lived long term message, these are not the current asset side where you had that 1 year time period. So that I said that are relative long until you will have land, building, equipment, all machinery, all sorts of assets for which the life of the asset that says more than a year.

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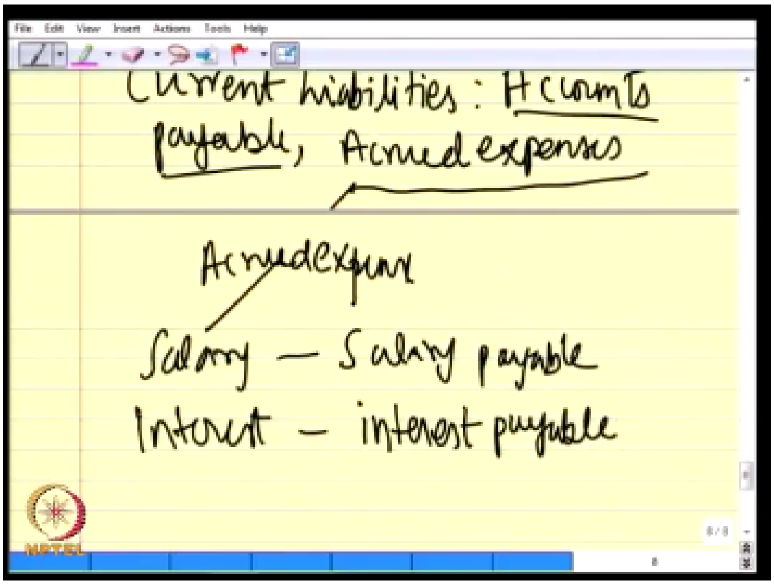

But that is not it will put it that way these are fixed assets and current assets balance sheet balance sheet I told you that value accumulated depreciation I have some value and then the building value which is the book value that you see in the balance sheet will be X Y Z-ABC. I leave the class a copy of a sample balance sheet actually be able to understand it better. But if you look at any balance sheet you would see that is fixed assets because of the cost concept.

They recorded at the cost of its acquisition less accumulated depreciation and then finally the book value of the acid which means the original cost of acquisition of the fixed is recorded and then a portion of that original cost is removed as we start using a fixed asset that portion is your depreciation and over a period of time you use it the depreciation gets accumulated letter 6 years later you say cost of acquisition less the total accumulated depreciation value of the fixed or deposit at that point of time.

Apart from these long term fixed assets you can also have other investments as your fixed as this could be your long term investments could be that you have used the firm resources cash to purchase let us a 10 year government bond. So that is a long term investment that is an asset to this firm or you could probably hold shares of some other entity that is an asset to this particular form.

So on the assets side, so on the asset side you have current assets, fixed assets the only thing that differentiates both is there life fixed assets are depreciable not all fixed assets and talking about land, building, machinery equipment, current assets are the one whose, whose propensity to be converted into cash, cash equivalents and consumed within 1 year period not generally depreciate.

Likewise on the liabilities side you have different account categories, so what is liability. Liability is an obligation to some external party, for events of the past, let us say on December 31, 2011 am preparing a balance sheet and that I have not paid wages for my employees for the week December 26 to December 31. So the amount that I am supposed to pay is a liability.

And this is as on December 31 2011 I creating the balance sheet, let us say on timeline today I am on January 10th and that I am preparing is balance sheet as of December 31 and I am not paying salary for January 1 to 10, but that is not a liability that has to be shown in the balance sheet because our balance sheet is as of December 31 2011. So obligations to external parties for events that happened in the past that might be some exceptions about which I will be talking later or liabilities.

So a liability as I told you before is a claim against the particular asset, but you cannot say that a liability that has arising out of waste and accounts payable or wages payable or some short term debt or some long term debt is against the specific asset and accounts payable of 100 rupees is against this particular asset whose values 100 rupees, specific claim against specific assets is very unlikely usually not the case.

But there are instances where let us say a case of mortgage loans where you identify a specific acid class and tell that it is for this particular asset that I have taken the slope. So the underlying asset that is being mortgage has a specific claim against it which was the Mortgage Loan so these are typically called secured loans. So unless you have categories of that type that isn't a specific claim against an asset for the existing liabilities.

So just you had current assets you can also have current liabilities, so current liabilities on accounts payable or account expenses, what is accounts payable suppose the entity manufacturers some product and for the purpose of manufacturer need to buy some raw material and I buy raw material and I promise this supplier that I will say this to me sometime later which is I am bound to pay this money to the supplier sometime later.

Till the time that page is applied the money the accounts payable will be a liability, so the amount that I have to pay is recorded as an accounts payable, likewise accrued expenses, these are expenses that I earned by outside parties but the entity has not paid it. Usually we categorise all this and then call that accrued expenses or if we know who these external parties are what type of amount is outstanding.

Then we categorise them according to those types for example if it is about salary suppose accrued expense relate to salary I just simply use the head salary payable, suppose up accrued expenses related to interest then the corresponding current liabilities interest payable, current liability revenue service that is deferred revenue and it is advance payment that entity as received for a revenue service that is actually delivered.

That is part of revenue and it also a liability because I have received some advance payment for some service that I have to give in the future which means I am liable bound to deliver that service in the future. So these are current liability items, so let us just stop here. Before we go to long term liabilities which will include your long-term debt as well as shareholders equity.

I am sure this class you understood what a balance sheet is different components of the balance sheet and how it is viewed both from a sources and funds point of you and resources and clients and how are classes are defined uncategorised, what is the first place is asset and then how liabilities are classified and categorised. We will see in next class on what long term liabilities are, thank you.