Retail Management

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Lecture-46
Financial Merchandise Management

Hello everybody, welcome to this NPTEL swayam course on retail management, this is professor Swagato Chatterjee from VGSOM IIT Kharagpur who is taking this course for you. We are in the last week and in this particular lecture we will be discussing about financial merchandise management. So, I have talked about the financial aspects the profit, how to measure profit or how to make your organization profitable in the retail context in the last video.

Now we will talk about how will you so in the profit calculations also calculate the cost of goods sold. So, one of the various ways I can do the financial merchandise management that means the merchandisers those aspects of merchandise which is impacting directly to your profit and loss statement or balance sheet, how that can be managed is something that we will be discussing in this class. So, what is financial merchandise management?

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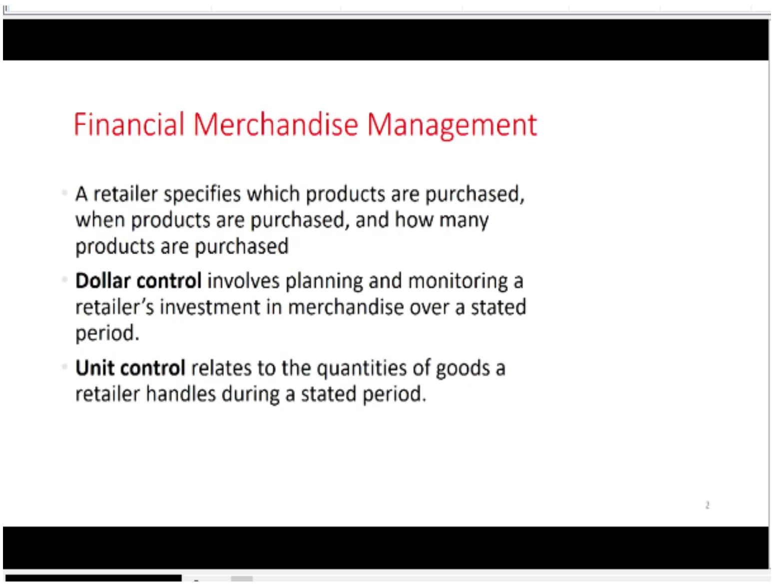

A retailer specifies which products are purchased, when products are purchased and how many products are purchased in a financial merchandise management. So, what product when and how many. So, to do that there are 2 different methods of financial merchandise management and I will slowly come to the utility of it. One is called the dollar control another is the unit control.

So, dollar control involves planning and monitoring a retailer's investment in merchandise over a stated period, let us say 1 year how much, what was your planning of your investment in merchandise. That means purchasing let us say all the excuse and monitoring whether you are going with the planning or not. And unit control does not focus on the money that you invest, it is focusing on the quantity that you are buying.

So, unit control relates to the quantity of goods a retailer handles during a stated period. Now what stated period we generally take? We can take quarterly or we can say monthly or we can take yearly; those kinds of spaces but whatever be the time duration that you are choosing these are the 2 things that we generally do with the overall umbrella of financial merchandise management.

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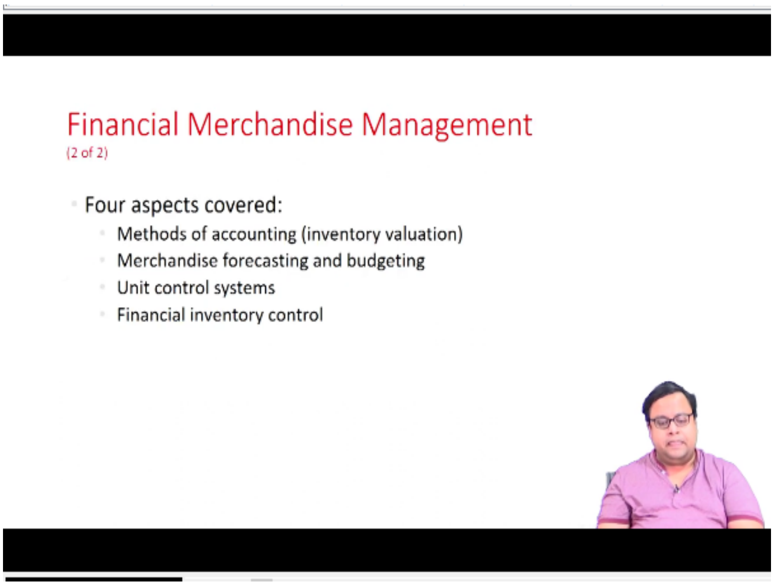

Now one of the various aspects that we will be covering under financial merchandise, we will talk about methods of accounting. So, you have to measure how much you have purchased, what product you have purchased, when purchased? Now this how much thing can be done through dollar or units? It can be either measured through quantity or can be measured through the amount of money that you invest.

And the amount of money that you invest can also be calculated in different ways we will talk about that. Now this is important to calculate the cost of goods sold and which will ultimately impact your profit and loss statement and your profits or losses will ultimately impact your balance sheet at the yearend. However, there is also unit control which controls the inventory management. So, how much is the space requirement, how much is the inventory that you are holding up?

All those things can be managed when you do with financial marginalized management systems. So, the first thing is methods of accounting that we will be discussing. Then merchandise forecasting and budgeting we will skim through it, unit control systems and financial inventory control is the 4 major aspects that we are going to discuss.

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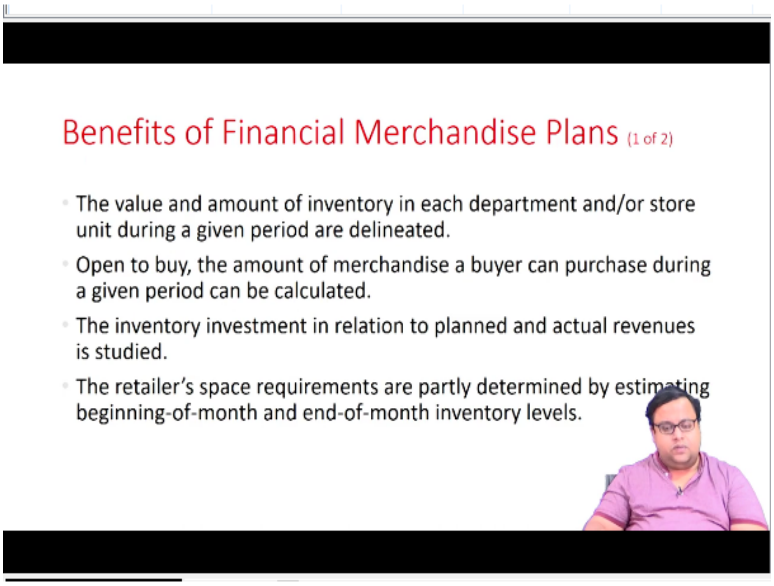

Now what are the benefits of financial merchandise plans, why do we do this? So, the value and amount of inventory, the value that means the monetary valuation, the dollar control and the amount which is unit control. So, the dollar and units the value and volume or value and amount of inventory in each department or store unit during a given period are delineated. So, it is you can separately see for which you need for which product, how much is the value of the product that you are holding or handling, how much is the quantity of the product that you are holding and handling.

That basically you are let us say it is a thread and a thread is made by basically joining multiple threads and you are separating the individual small, small threads which basically bound together to create a big thread. So, that is what this first job is, you are slowly finding out that what are the flows of money and what are the flows of the quantity that you are buying over various units and each flow is one product probably.

Then open to buy, the amount of merchandise a buyer can purchase during a given period can be calculated. So, how much you can open to buy, how much you have the ability to buy in a given period for a particular unit or a particular product that can be calculated through this financial merchandise. The inventory investment in relation to planned and actual revenues is studied.

So, you can think about how your inventory is correlated with the actual revenue that you are getting. The retailer’s spaces requirements are partly determined by estimating begin of month or end of month inventory level. So, as I was telling that this one will be done by amount or volume rather than the value. So, how much is the space requirement, how much inventory space will be required for the retailer can be determined by estimating beginning of one and end of month inventory level.

So, you find out what is the starting of the month inventory level, what is the end of the month inventory level? If there is a gap in between then that much amount is being sold or that much is probably being handled by the retailer and that will give you the idea about how much inventory is required.

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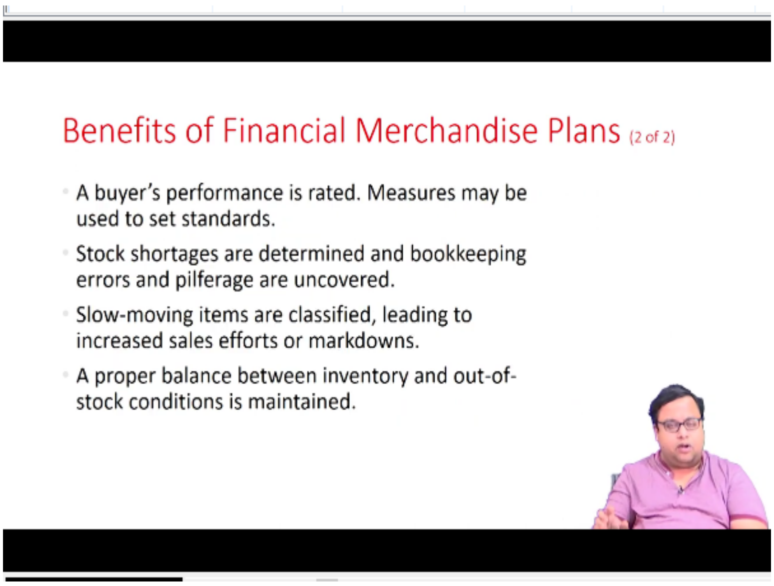

A buyer's performance is rated. Measures may be used to set standard. So, you can benchmark your buyer whether there might be multiple buyers within a retail organization; buyer means purchase manager let us say. There can be multiple purchase managers or multiple category manager who is handling the purchases of the category as well. In the retail store you will may be able to compare with each other, you may be able to give an idea that who is doing good, who is doing bad?

Stock shortages that means when the inventory is not there are determined and book keeping errors and pilferage are uncovered. So, you find out that why are the errors are happening, whether you are keeping notes of all the products or you are currently documenting it or what the errors are happening or where products are going away. Raw materials are going away; theft is happening all these things can be found out using this financial merchandise plans.

Slow moving items are classified, leading to increased sales efforts or markdown. So, you can find out which particular raw materials or which particular finish goods are not selling. They are stacking your inventory and you can probably find out them, identify them and you can probably go for a markdown or sales promotion. So, that you get your inventory I would say open or inventory available again or proper balance between inventory and out of stock conditions is maintenance.

So, if you remember the wool whip effect has a out of stock condition under inventory. Inventory has a cost out of stock condition has also a cost which is a opportunity cost and often this opportunity cost is higher than the inventory cost. That does not mean that I will keep on a huge inventory, I have to keep a balance between these two. So, that can be done when you do a financial merchandise plans.

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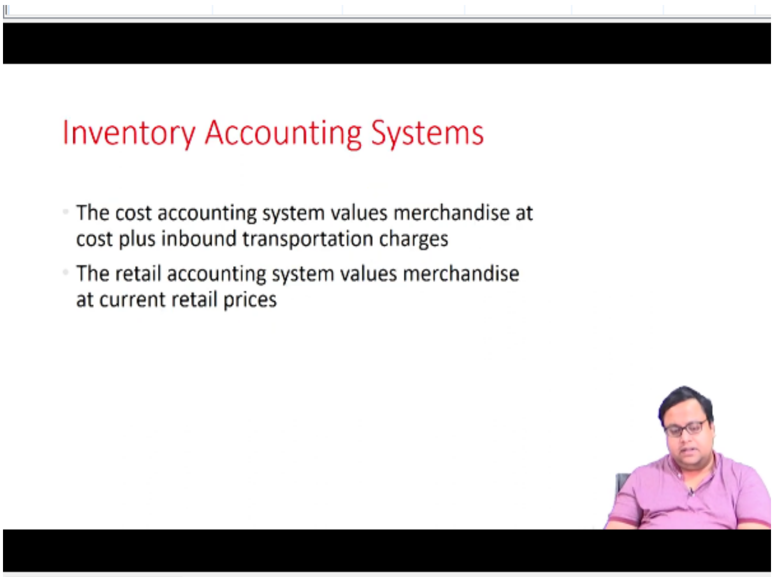

So, when you do this financial merchandise plan there are different ways to take stock of your products that you have in your inventory. One is the inventory accounting system. So, in this accounting system there are 2 types of accounting system. Accounting means basically counting at another rate, count and keeps a note of that. That is accounting. So, that counting of your inventory can be done in 2 ways.

One is the cost accounting and one is the retail accounting. What is cost accounting? A cost accounting system values merchandise at cost plus inbound transportation charges and the retail accounting system values merchandise at current retail price. So, what will be the value of let us say I have bought a glass of water and I have a bottle of water and I am a retailer, I sell these same distillery bottles, big bottles, small bottles through my retail store.

Let us say I have a food retailer. Now question comes if that when this particular bottle is stuck in my inventory and in my balance sheet I have to write how much inventory I am holding currently, what will be the value of that inventory? Is it the price in which I have bought plus the transportation charge? So, total cost that I have incurred to bring the bottle to my shelf is that my inventory or the price at which I will sell it, that will be my inventory.

Because understand that if I focus on the price part, if I focus say this thing the price will be probably higher than the overall total cost that you have incurred. So, the price is then your inventory holding value becomes high and when your inventory holding value becomes higher then you basically your assets become higher, a lot of assets and you have to also you become liable, your liability also will go up, you become liable to your shareholders and etcetera.

However, if you do the same accounting using the cost accounting what we call it, which is find out what is the cost to bring that it and then you can probably get show better profit because all of a sudden when your asset gets sold that particular inventory gets sold and you get a lot of money which is higher than the cost that it is in which you have brought it in then that money can be sold in the profit. Now retail accounting probably sometimes might not show the profit so much which the cost accounting may do.

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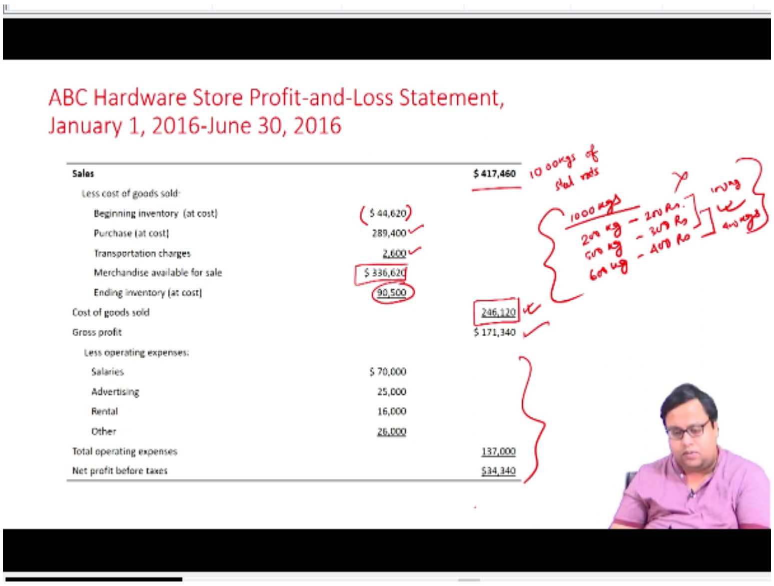

So, let us go ahead and we will talk about that. Let us say it is an example. Let us say this ABC healthcare just 1 minute, so let us say this is the sales that is happening. This is the sales and I am doing less cost of goods sold. So, what is the cost of goods sold? I am writing, it is 246120. Now the problem is the one to one mapping is difficult how do I know exactly my cost of goods sold is 146.

Let us say 100 kgs of let us say certain in this case hardware. So, 100 kgs of steel rods got sold, but still rods I do not keep tag of each individual steel rod, I buy steel logs in tons. So, when I say that 100 kgs of steel rods or let us say 1000 kgs of steel rod is the price is like this I exactly I am not sure that which one I have sold. Then how will I do the accounting that how much steel, what is the cost of this particular thing.

You see this 1000 kgs of steel rods probably have been bought in multiple different times probably out of this 100 kgs I have bought some 200 kgs at a price of let us say I do not know 200 rupees and then there is another 500 kgs which I have bought has 300 rupees and let us say after that I also bought let us say another 600 kgs at 400 rupees. So, I do not know exactly whether I have sold this part or whether I have sold this part or whether I have sold 100 kgs from here.

And let us say all the 500 kgs from here and 400 kgs from here I do not know exactly what I have sold. So, when I do not know I do not try to directly connect one SQU with that, so which is possible in other retail stores where a SQU level connectivity you can find out, but in other cases when it is difficult to find out we do not go into that, what we do? We beginning inventory at the cost, we find out that whatever inventory is left, what at the cost level what is the inventory?

Then how much new inventory I have bought, what is the transportation and charge of that new inventory? Purge is the merchandise available for sell them, the merchandise available for sale is the summation of beginning inventory, the purchase at cost and the transportation charge. This is the merchandise available for sale. Then I am subtracting the ending inventory at cost, how much invent is left now that part becomes my cost of goods sold.

And then the rest from there I am calculating the profit and rest of the calculations are happening. So, this is a profit and lost statement where I am calculating my inventory based on the transportation cost and the purchase cost. So, here can be other costs also if you can think about those kinds of cost which can be directly affecting the cost of goods sold of this particular product the raw material you can include that as well.

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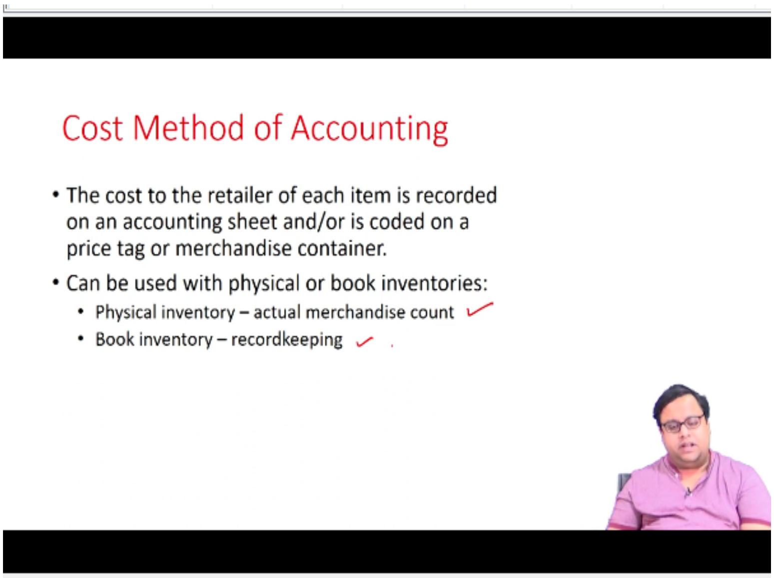

Now how do you find out the physical inventory system? See the calculation also is dependent on the 2 things; one is the starting inventory and one is the ending inventory. These are the 2 things which also define other than the purchase price and etcetera. These 2 also defines that what will be the total cost of goods sold. So, what is ending inventory? Ending inventory recorded at cost is measured by counting the merchandise in stock at the close of a selling period.

So, how many merchandise were present that many merchandise, that many items is basically noted when the closing period closes. In this case the closing period is 1 year because profit and loss statement is generally made for a year. Then gross profit is not computed until ending inventory is valued and gross profit is derived during full merchandise count, you generally sometimes when you do the full merchandise count all the merchandise you count that is when you try to find out what is your ending inventory and that will only give you what is the gross profit.

Now there are different methods of accounting. This is this, the next we will going to cost method of accounting, what is cost method of accounting? So, when I am measuring how much inventory do I have, the cost to a retailer of each item is recorded on an accounting sheet and is coded on a price tag or a merchandise container. So, you probably find out that this particular product you give a name, you give a tag, you give a ID card, ID for each of this particular product and then you put a cost to that and you keep it somewhere.

This can be used, for example see why this is possible? Because if I know that these are the prices of the product at one point of time beginning inventory was 0 and I purchased some product at certain price I tagged those product with those prices. So, I have the beginning inventory and the ending inventory will be again can be calculated based on those same cost accounting. So, can be used with physical or book inventories.

Physical inventory means actual merchandise count and book inventory is just a record keeping. Physical inventory is basically count every let us say product that you see inside your retail store there is a number written there, the cost number or if you scan with the scanner you will find out that what is the cost of that particular item which is stored in your retail store which you are selling or you can have a bookkeeping where all these records are maintained in a database or in a book or in some record.

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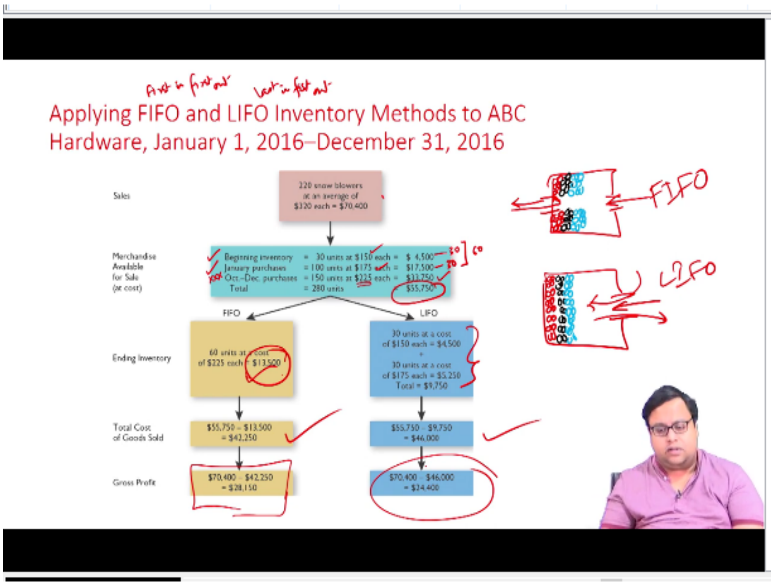

So, when you are calculating this FIFO and LIFO in the context of accounting there has to be 2 ways. One is what is first in first out and then there is last in first out. So, one is first in first out. First in first out is when there are entries in both the site and last in first out is when your entry is one side, just consider this situation that one car comes up and stores the products here.

Then another car comes up and stores the products here, the second cars products and the third car comes up and stores the products here. They are all coming in from here and they are storing like this. Now consider a car which will be coming from the different direction to just pick it up. So, these are storing happen, now picking up will happen. So, car comes from here it takes the red one and goes away.

So, remember red one has entered fast and that is why it is also taken away first. But in this case the red one is not accessible, so a car comes in takes the blue one and goes away. So, this is the FIFO first in first out and this is a LIFO model last in fast out model. Now how will I calculate this, how will I do that in our cost of goods sold calculation? Let us say I have 220 this no blowers, this is one kind of hardware that is sold at a 320 dollars for each that price.

So, 7th in the whole year 70400 dollars that was your revenue in the whole year for this particular blue colour. Now you see that what was your beginning inventory? So, beginning inventory in the last year when you started last year that was basically 30 units of products were left which you bought at a price of 150 dollars each. Now in this whole financial year in January you bought 100 units and in October to December you bought 150 units.

So, this particular case January 1 to 31st December that is your cycle. So, January bought 100 units and 150 units you bought. So, total how much was the merchandise available for the sale over the whole year, how much was the inflow or how much was the inventory? The maximum possible inventory is 280 dollars. So, the 280 unit, so 30 + 100 + 150, 280 units was available. You sold 200, what you have is 60 units with you.

Now the question is that these 60 units that you have with you, which 60 units do you have? Do you have the earlier 30 units that were there before January, are that still there with you or the 60 units that you have is the one that you have bought in January only or the 60 units that you have are something that you have bought in October and December because based on that the ending inventory calculation will be different.

Now in case of FIFO fast in first out, obviously the beginnings whatever was the earlier 30 units which were there in the first in first out first thing that will be sold is this. Then it will be sold is this. So, the 60 units that you are leaving will be from this particular group, but in a last in first out the first thing that out of this 220 for the first thing that will be sold is this because they are lost in.

And then this will also be sold but around 30 units will be left here and the 30 units will be left here together it makes 60. So, that is why in a FIFO context I will calculate 60 into 225 that will be my ending the inventory and the LIFO context it will be 30 into 150 and 30 into 175 total 9750. So, 2 different modes will give me 2 different kind of calculation. Now this was my ending invented. This inventory that I still have with me.

So, how much did I actually sell them this was my total inventory cost, this is still that I have with me. So, this minus this gives me the 42000, here it is 46000, that much is the cost of goods sold. So, here that is why the profit in this particular context is 28 dollar which is this minus this and the profit is 24 dollar. Now this may vary depending on different type of inventory system but most cases either you follow FIFO or LIFO and that is how the calculations are done.

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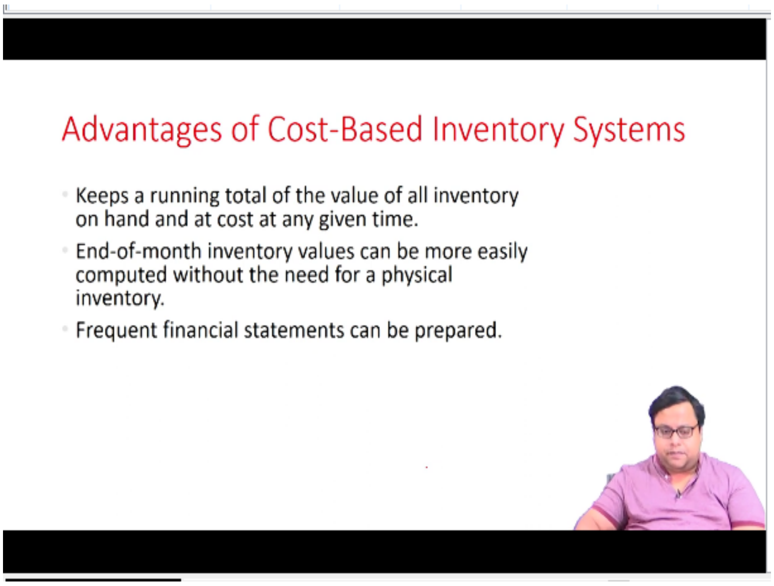

Now what are the advantages of this cost bits in inventory system? It keeps a running total of the value of all inventory on hand and the cost at any given time. So, you can find out the cost. End of month inventory values can be more easily computed without the need for the physical inventory, you do not have to go in your inventory and calculate you might have a get an idea from these books only and frequent financial statements can be prepared.

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Disadvantages they require that a cost be assigned to each item in stock. You see this is possible because I have per unit level cost, but what happens if it is let us say iron ore, for a steel plant you have bought iron ore or you have you have bought let us say petrol or diesel they get mixed, you exactly do not know what you might be doing your accounting but the accounting figures and the physical figures might be very different because byou cannot put a tag on some liter of some gallons of oil which is getting mixed with another gallons of oil coming from another source.

So, that is a problem. Do not adjust inventory values to reflect style changes, end of season markdowns or sudden surges of demand. So, market fluctuations are generally not taken into care. All your focus on is the cost, whatever in what price you have bought it, sometimes that is why it might give a inflated inventory value even when the inventory value has lost if you try to sell it, it will not sell. So, you are saying that I have so much of asset but you actually do not have. So, that might have a case in the context of cost based inventory.

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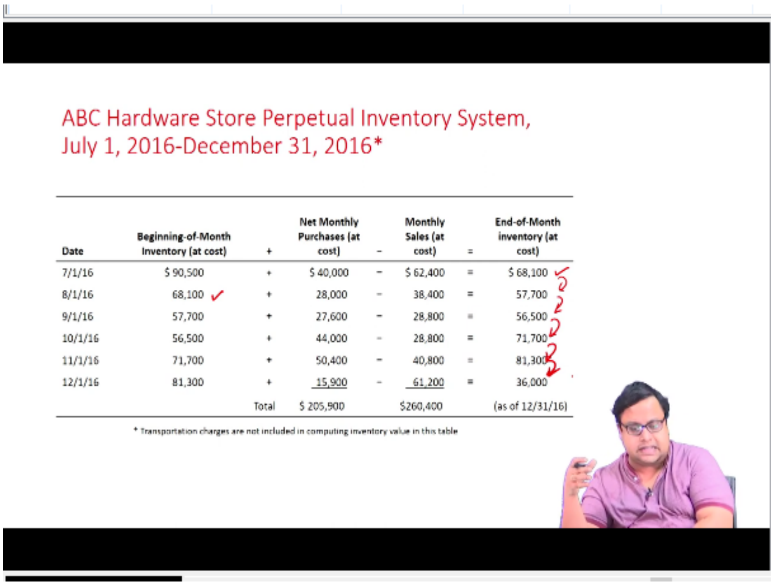

Then ABC advice perpetual inventory system. So, let us say something that we are talking about which is perpetual. What is this? So, let us say I have 5 different dates, 7, 8, 9, 10, 11, 12, I have beginning of the month inventory that was 90,500 plus monthly purchased at a cost of 40500 minus monthly sales. That gives me the end of month inventory. I can make that in the next month's beginning of the month inventory.

So, this is basically not 7th, 8th January, this is 1st July, 1st August, 1st September and so on. So, I can keep on doing this inventory system monthly basis also. So, that is a perpetual kind of a inventory system where beginning of month net monthly purchase, net monthly sales, creates your end of month and net means it includes the transportation costs as well.

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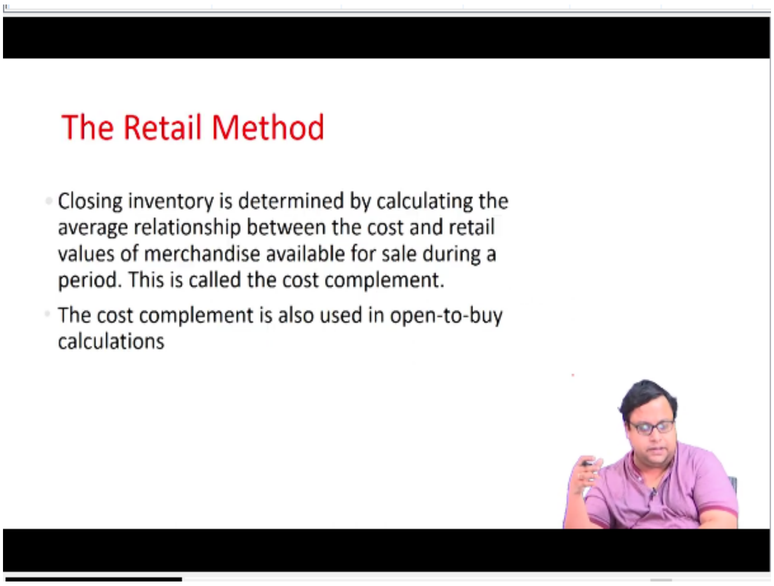

Then comes the retail method. So, the retail method is that closing inventory is determined by calculating the average relationship between the cost and retail values of merchandise available during a period. This is called the cost complement. The cost complement is also used in open to buy calculations. So, what does that mean?

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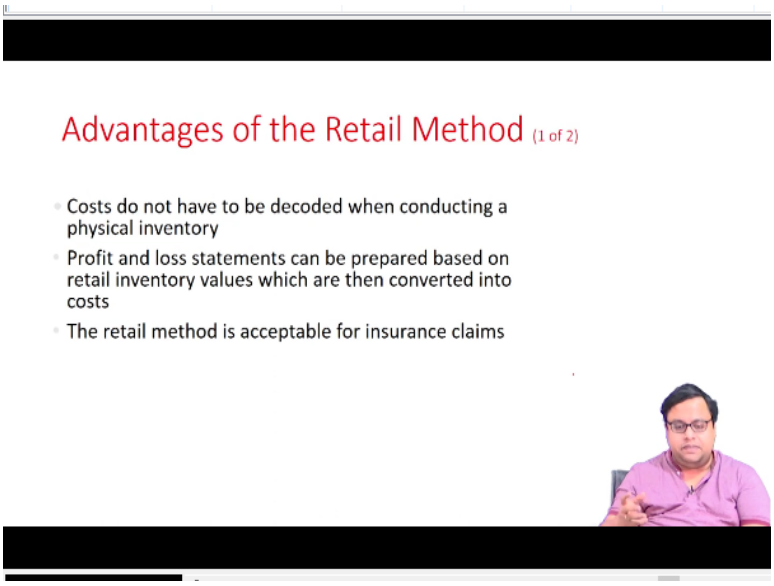

What are the advantages cost do not have to be decoded when conducting a physical inventory? You do not have to find out that each item what is the cost of it. Profit and loss statements can be prepared based on retail inventory values which are then converted into costs and the retail method is acceptable for insurance claims, because that is the true value of your inventory. So, when you want to insure your products your inventory from any kind of harm or natural calamity or these and that; that you get an advantage.

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What are the determining ending inventory values you calculating the cost complement or you calculate the deductions from the retail value and convert retail inventory value to cost.

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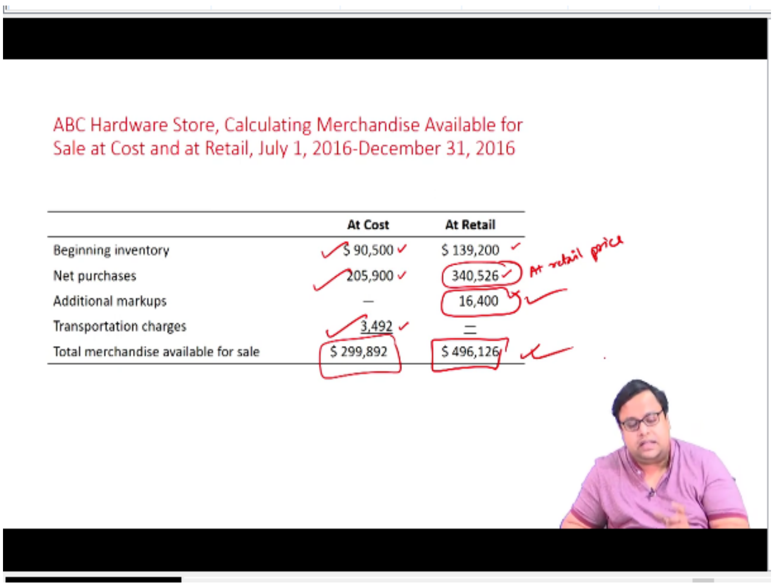

So, let us try to see what it is. So, let us say in the beginning inventory whatever inventory that you have at the cost level this was the cost, but the retail price level this is the retail price, then the net purchases is 205900 and here it is 340526. If you just say that. So, then what you do? You do additional markups, so here you are also doing certain kind of additional markup. Here you are also doing certain amount transportation charge.

So, this transportation charge is not considered in the retail context that comes into as your operating expenses and in the real context additional markup how much extra? So, this is the price that your cost at which you have bought this is the markup that you are giving the additional the margin. So, all these things together, if you add up all these things that will be your total merchandise available. Similarly here beginning inventory, net purchase, transportation charge creates your final inventory.

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So, what did I tell? Cash flowing the cost complement which is basically the cost complement is nothing but the beginning inventory, the net purchases at retail price then the additional markup extra charges that you are trying to do and then comes your total merchandise for sale. So, that is how you calculate the real merchandises.

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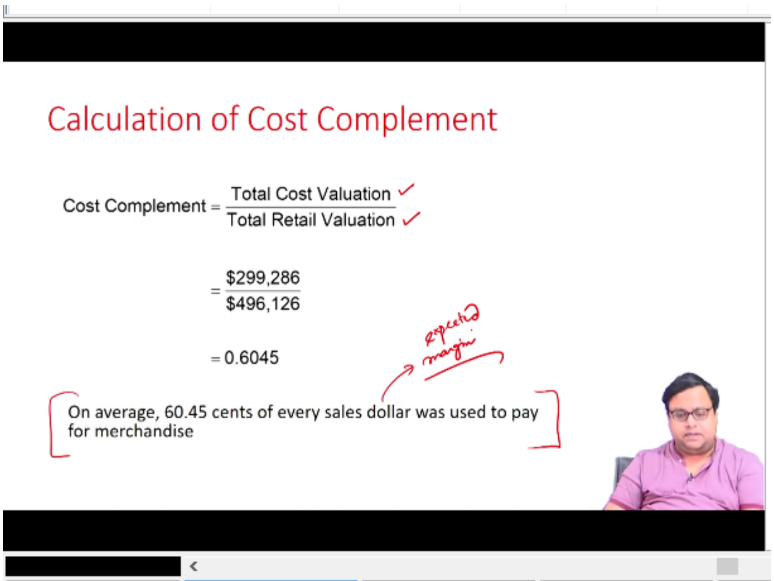

What is cost complement; the total cost valuation by total detail valuation.

$$\text{Cost Complement} = \left(\frac{\text{Total Cost Valuation}}{\text{Total Retail Valuation}}\right)$$

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You see the lower is thing on average 60.45 cents; we did the calculation quickly 60.45 cents of every sale dollars was used to pay for merchandise. So, that will be some measurement of margin. The cost complement is some level of measurement of the margin that how much of your total retail valuation, how much of that is actually used to buy that product, to get that product in your thing.

So, the retail valuation does not mean that you are selling it. So, it might be a probably something called let us say I should not say margin because margin is more related to the actual revenue when it is realized it can be the expected margin or something like that it might be related to the expected margin that I am expecting I will make this much of money. Now from that expectation what percentage has been used to buy the product? That is my cost complement; that is also calculated the lower the cost complement is the better as simple as that.

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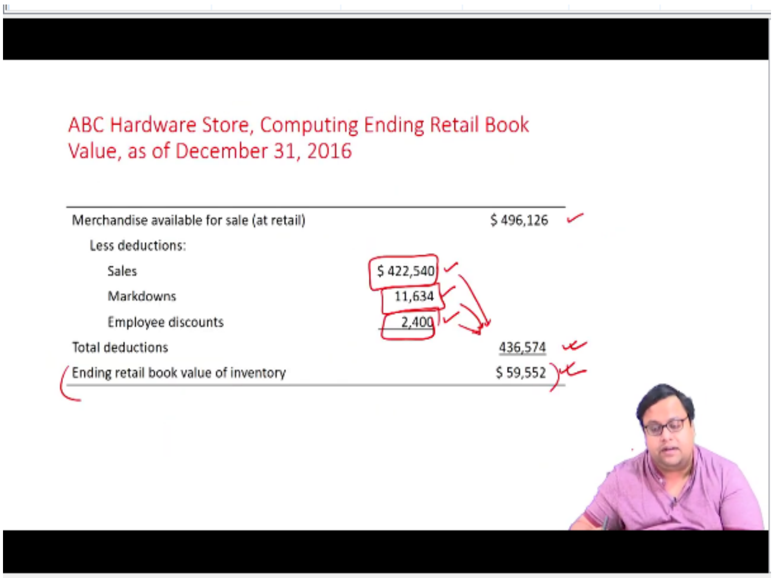

Then you can also compute computing ending retail book value you can also compute. So, for example see we talked about that we can add the cost complement, but next is calculating deductions from retail value which is the second step. So, whatever is the retail value that we have calculated you should calculate the deductions. What are the corresponding deductions that are possible? So, markup like extra price that you charge, mark down is when you reduce the price.

So, mark down, employee discount, sales are basically sales benefits that you are giving, sales discounts that you are giving. All those things will come up in the deduction. So, this is the maximum possible money that you can get, you can make then you are reducing that; you are saying that I can doing sales, I am doing markdown, I am doing the certain kind of employee discounts I am giving and the ending retail value of the inventory.

So, this is my revenue; the revenue gets out. The markdown that means the discounts and etcetera that gets out, the employee discuss that gets out. All these thing total is this much money is basically reduction is happening that means they are going out from your inventory system and this is the ending inventory. This becomes the starting inventory in the next year. So, next year when you calculate this; this is where you start. This 90500 will be the replaced by this 59552 in the retail context.

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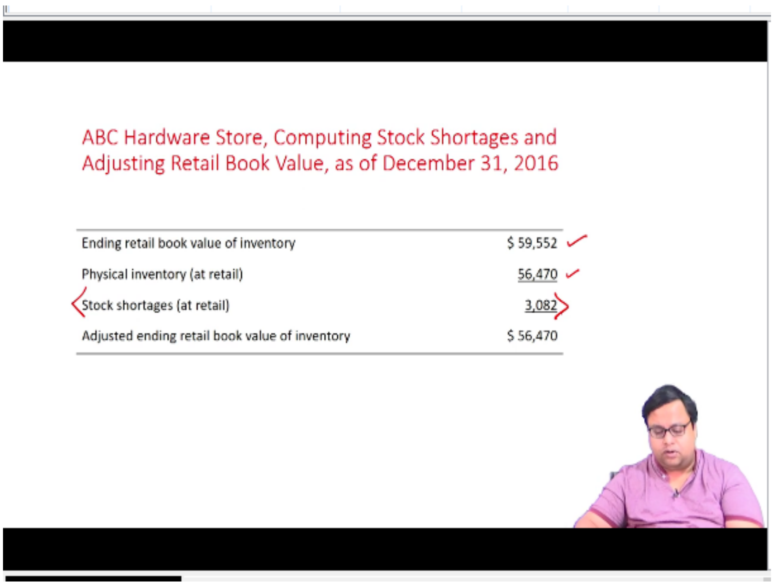

So, you see ending retail value then you also check the physical, so how do you adjust with the market. So, ABC hardware store computing the stock shortages and adjusting retail book. So, you check the ending retail value inventory is this much; the physical inventory at retail is of this much. So, this is the stock shortage and shortage can happen for many reasons. So, this is something that is happening; let us say for theft sometimes, it is not only the sales that is reducing the number of stocks, it can be wastage, it can be let us say product getting expired.

So, there can be so many things that can create a shortage. That means the inventory is not realizing their sales they are true to outcome they are getting the shortages happening in between. That is also possible, so that can be calculated that has to be reduced and then you adjust the final ending value. That is how the retail model works.

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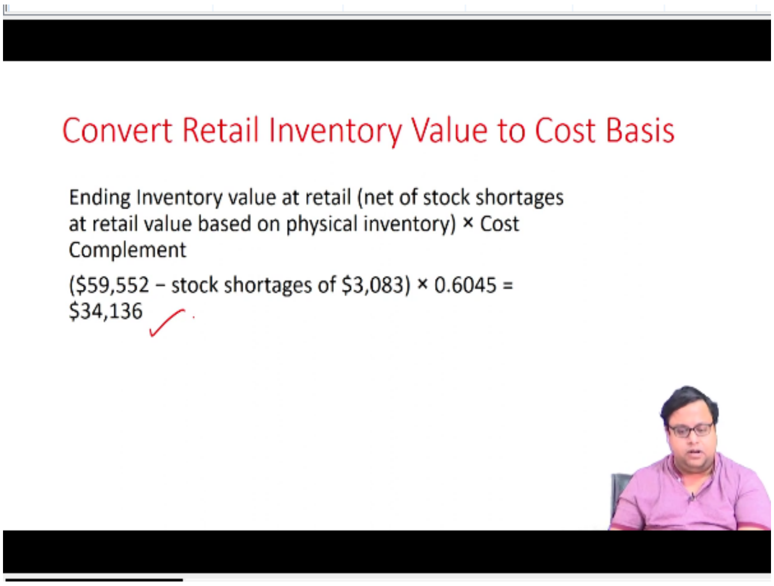

So, how do you convert real inventory value to cost basis? So, these 2 things are interchangeable; you can change the retail inventory value to the cost level inventory value and other way. So, ending indented value at retail which is basically net of the stock shortages at retail value based on physical inventory multiplied by the cost complement. That is your corresponding cost basis inventory.

So, 59552; this value that you got minus the stock shortage which is 3083 multiplied by 0.6045 which is your cost complement gives you this value which is 34,136. If you do the same calculation using the cost only calculation you will get. So, it is better to do the written only kind of a calculation and if we require to calculate the cost you can do it using this particular formula.

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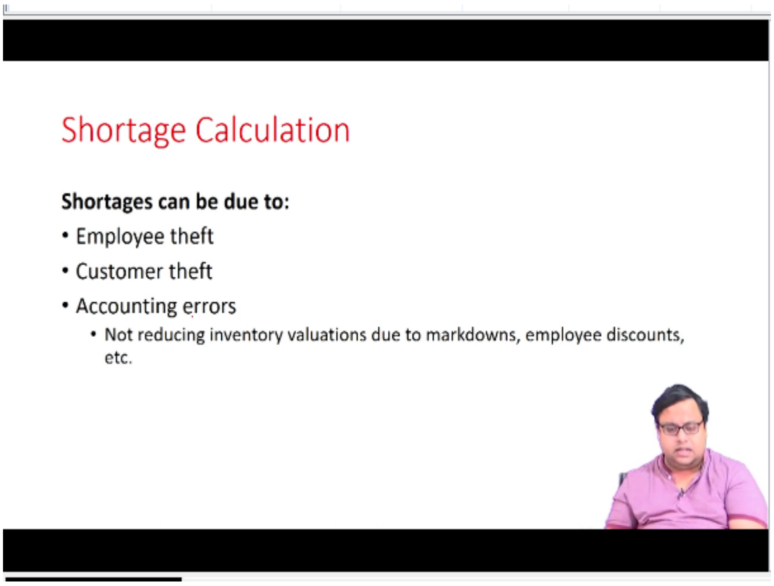

Shortage calculation as I was telling what are the different reasons, there can be employee theft, there can be customer theft, there can be accounting errors like not reducing inventory valuations due to markdowns or employee discounts etcetera. These are the potential and there were as I was telling that it can be let us say the inventory can get wasted, there can be damages. Those are also part of shortage calculation one should keep that in mind.

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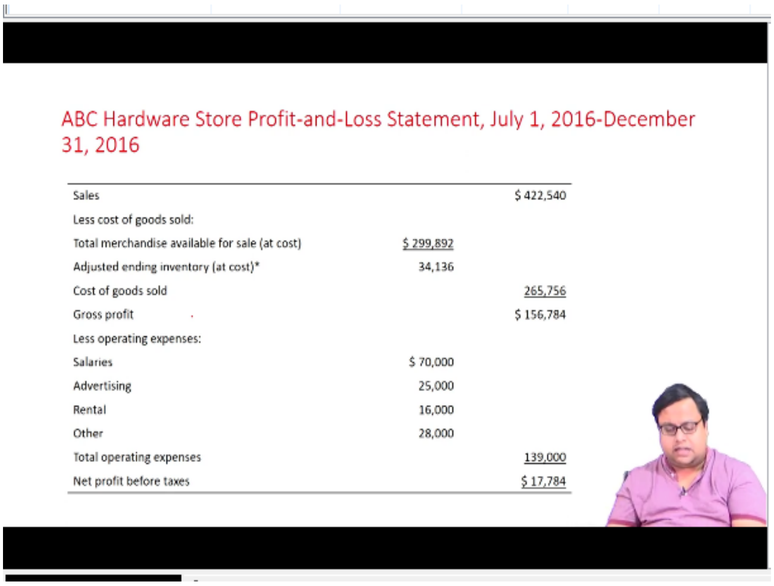

So, overall what is the profit and loss statement; you just see there is a sales; then comes the less cost of goods sold, what are the things that I am taking total merchandise value for sale, then adjusted ending inventory. So, 34,136 if you remember that was at cost level, we are getting the cost of goods sold that is why and then I am calculating. So, I can calculate the profit and loss statement from the retail model also.

So, I can have the retail model inventory that will help in getting an idea that how much exact inventory I have, how much money I can make, how much insurance I should do this, that; that will be ok, but in the profit and loss statement I have to show the actual cost, I cannot show the retail how much I am holding, I am actually have to give the actual cost of buying that product.

So, what I do is I adjust the ending inventory and then from there using the cost complement I find out the ending inventory I always had the initial inventory and from there I get how much is the cost sold. That I use for profit calculation; unlike the previous one where I remember where we did absolute cost base everything was cost transportation charges, net purchases, absolutely cost base calculation instead of that we do a retail based calculation.

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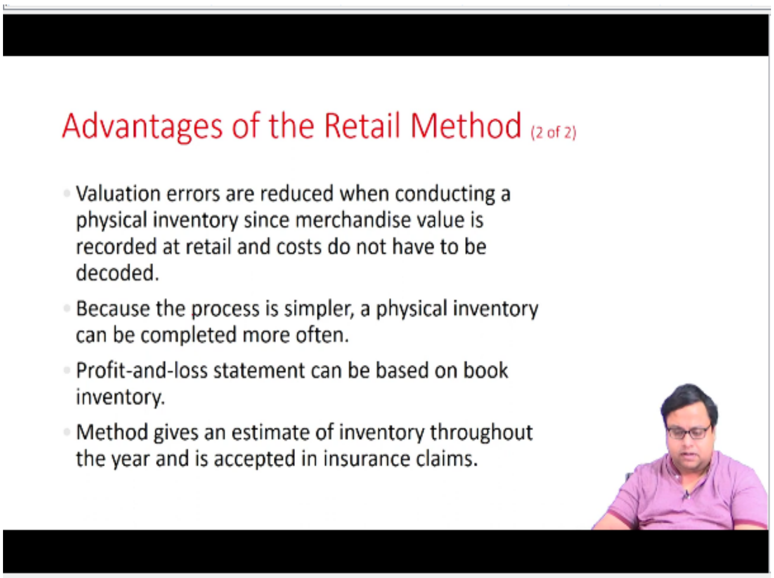

What are the advantages? Generally valuation errors are reduced when conducting a physical inventory since merchandise value is recorded at retail and costs do not have to be decoded because the process is simpler a physical inventory can be completed more often. Profit and loss statement can be based on the book inventory whatever is the exact inventory that you have in your books and instead of physical inventory. And method gives an estimate of inventory throughout the year and is accepted for insurance claims.

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The limitations are booking burden that because there are lots of data that you have to keep. Now ending book inventory is correctly computed only if the following are accurate like value of the beginning inventory, the amount of purchase, shipping charge, markup, markdown. So, lots of things are required to know how much is the last ending inventory value. So, all those things have to be accurate then only you can calculate this.

And cost complement is an average based on the total cost of merchandise available for sale and total retail value it is not very targeted to one particular rescue, it is average of all the excuse available and that sometimes create a problem. So, we talked about 2 modes; we will stop here we talked about 2 modes the cost mode and the retail mode and how one mode can be achieved from the another mode.

What are the advantages and disadvantages, this is how we generally use to calculate how much inventory do we have and that is used in the P and L statement as well. So, these are 2 important merchandise management, financial management method that is there. So, we will discuss about more about merchandise financial management in the coming video, please be with me that will be the last video and we will see how we can better manage the financial aspects of the business. Thank you very much, see you in the next video.