Financial Accounting
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Lecture – 78
6.8 Efficiency Ratios

We are now discussing the fourth category of indicators, where we measure the efficiency, where we look at the indicators, which will help us understand the efficiency with which the operations of business are being run. The need for the efficiency ratios is as follows.

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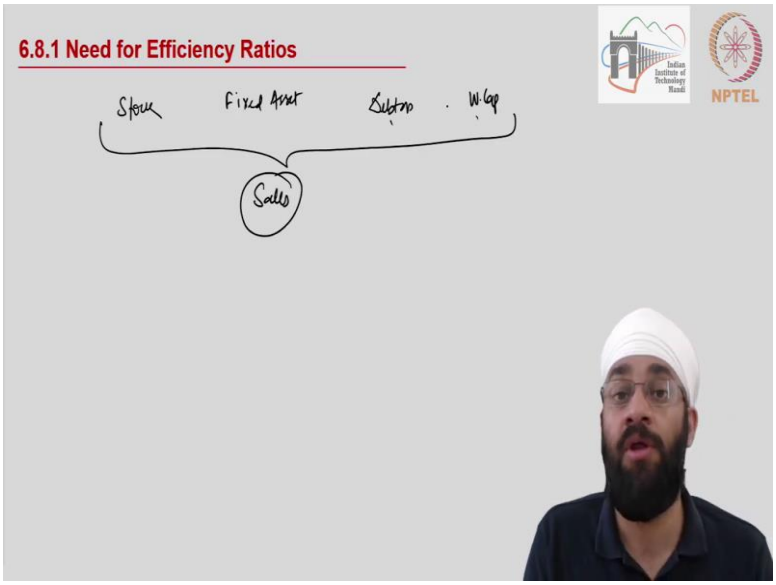

We need to understand if the debtors, the stock in the business, the fixed assets in the business, the capital employed; the working capital in the business, some of these resources are being efficiently utilised. When we say efficiency, we are typically referring to the efficiency in using these resources to generate sales. So, are we able to utilise our stock more efficiently, is the management of the stock good or not? The fixed assets: are they able to help us convert into sales, similarly the debtors and working capital. So, there can be more resources as well. The idea is to figure out the management's efficiency in running the business with this category of indicators.

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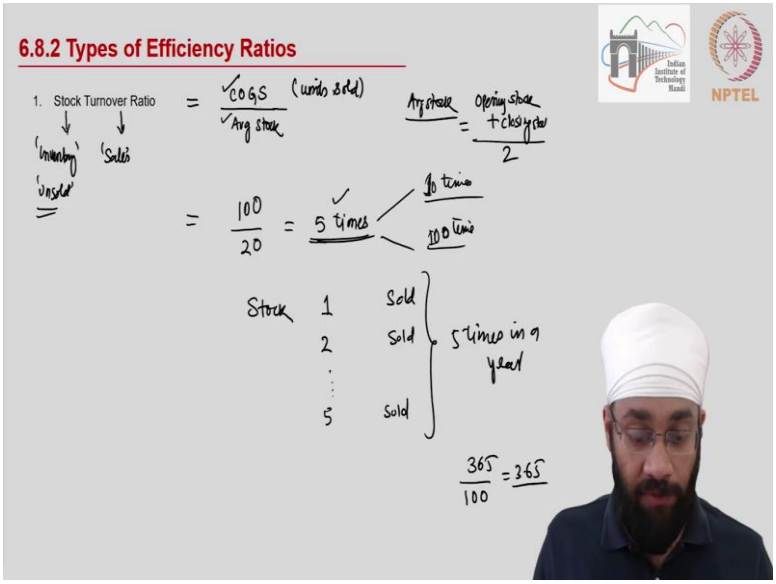

Let us look at some of these indicators. The first indicator is called ***Stock Turnover Ratio***. So, the stock refers to the inventory, the stock of goods, that we keep with us; typically, the unsold stock that you have with you. And of course, you intend to sell this stock, convert this into sales very frequently. The turnover refers to sales. The word turnover typically, is used to refer to the top line of the income statement, the sales. The purpose of this ratio here is to say how much stock we maintain and how much sales we have. The ratio is calculated as follows; we take the cost of the goods which are sold during the year. COGS represents the units sold at cost price, but the units are the same; divide this by the average stock that we maintain during the year. What is this average stock? Average stock means at a given point in time how many units do you maintain with you. Typically, we take the opening stock, add to it the closing stock, and divide this by 2: that is how we get an average stock for that given year.

If at the beginning of the year you had 100 units and at the end of the year you had 100 units then on average you had 100 units of stock with you during the year. So, the idea here is that we are trying to look at the number of units sold and trying to relate it to the number of units that we maintain at all times in the business. If a customer comes to you and you do not have the stock of the goods, you will not be able to generate sales. So, you have to invest some money in keeping the stock in the shop, in the business, in the retail outlet with you. So, what is that stock that you maintain and how frequently are you able to convert that stock into the sales is the question. If the cost of goods sold is 100, and average stock is 20; on average you maintain 20 units with you. And, during the year you have 100 units worth of sale; then your

stock turnover ratio is 5 times. What does it mean? It means you are able to sell your stock, the stock comes into the business for the first time let us say in the financial year and you sell it. Then you bring the stock again and you sell it, you bring it again and you sell it. This happens 5 times during the year, this is what stock turnover ratio is. We are maintaining the stock to convert it into sales. So, we are maintaining one-fifth of the sales which means you will have to sell the stock and order more and bring in more. So, what is an ideal number here is the question, is there a thumb rule? Again, do not go by thumb rules; textbook rules are only theoretical. You should look at a specific sector, you should look at your competitors, and then come to an ideal number for a given company that you are analysing. So, the 5 times would mean something and if it increases to say 10 times then what does it mean? That means, the stock that you maintain with you gets sold and then you order again, then you sell that then you order again. This happens 10 times in a year, 10 times in a year means almost every month; or little more than a month... So, about every month you place a new order to purchase the stock which is good: you are turning your stock over into sales; stock turnover ratio. You are turning your stock into sales. Hence, the name for sales is also the turnover. You want to be able to sell off your stock very quickly. If you do that you are great at doing the business, you have good demand in the market. You are located in the right place; your strategy is correct. It can mean a number of different things. What if the stock turnover ratio is, let's say, 100? Do you want it to be 100? Do you want it to be 1000? A very high ratio will not be good because, 100 times would mean; that in 12 months, or let us say 365 days in a year, and 100 times you are ordering. So, every 4th day you have to procure more stock which may not be good, because every order may have some transportation cost and ordering cost attached to it. We will talk more about this, when we talk about inventory control topic later in the course. But what I am saying is that too high a ratio is not good. If you have to order again and again maybe you do not have enough storage in your outlet to maintain a higher stock. You cannot always keep on ordering that frequently; unless you are into perishable goods for example, vegetables and so on, which can be procured daily. Thus, too high a ratio is not good, depending upon the kind of business again, you should say what is the ideal ratio that I should have and also you should look at the costs involved in reordering and procuring and storing in order to decide what is the right ratio for you. So, a stock turnover ratio is the first indicator; it indicates the efficiency with which the business is able to convert its stock into sales.

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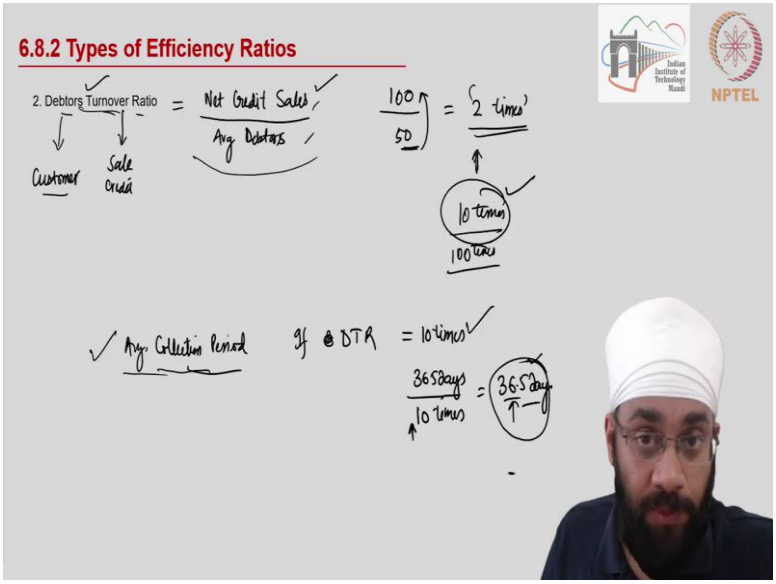

Let us look at the second ratio, second indicator, in this category of efficiency ratios. This is called ***Debtors Turnover Ratio***. The number is calculated as follows; the net credit sales are taken and then these are divided by the average level of debtors that are maintained by the business. What does it mean? Debtors are your customers to whom you have sold goods on credit and turnover refers to sale. In this case as we are talking about credit; we will say credit sales and therefore, the numerator. So, the idea here is the total credit sales that you are able to do during a year. If this is 100 and if you sell to customers and then there is a time lag before which you could recover the money from the customers, maybe it is your policy to say that the customers can pay you after 1 month or 2 months, then on average during the year, how much money is always outstanding to be recovered from the customers, that is the money that we are talking about. Again, let us say this comes out to be 50 and the ratio is 2 times; this ratio is also expressed in time unit. So, what this means is that debtors are converted into sales twice a year or debtors are half of the credit sales. Or, the more appropriate explanation would be half of the credit sale is always to be recovered; half of the credit sale you do not receive money for it. So, what you want to do is you want to recover this money as soon as possible. You want this number to be as; do you want this number to be high or do you want this number to be low? Maybe you want this number to be as high as possible because that would mean let us say 10 times; 10 times would mean that your average debtors, the money to be recovered from the customers is one-tenth of the total credit sales that you have done. So, you want this recoverable to be as less as possible, you want the money to come in very quickly. However, do you want to make this 100 times? Do you want this ratio to be too high? If you have a too high ratio; that

means, you are not actually giving credit to the customers, you are just recovering the money very quickly or you are doing all cash sales possibly. So, that may not be good from the competitive strategy point of view. If you want to compete to get your customers, you may have to give a credit period to the customers as well. So, the same principle, you go to the sector, you go to your industry and you say what are my competitors doing? What kind of credit period is allowed? It depends upon the nature of your business. If you are running a retail outlet, you typically do not extend much credit; all sales are cash basis because you do not know the customers. But, if you are in a business-to-business market where you are selling to another business, then it is better to have a credit policy in place. So, this is the debtor turnover ratio. There is one more variation, one more step to it; this is the debtors turnover ratio and there is something called average collection period. If the debtors turnover ratio is equal to 10 times; and in a year you have 365 days, this means you are collecting money from your debtors every 37th day. Every 37th day you are recovering the money from the customers to whom you have supplied goods on credit. And, you want this recovery to be as fast as possible. Therefore, you want the denominator to be as high as possible, but again not too high. If this recovery period comes down to collecting everyday meaning you have to send out somebody to collect it or you have to follow up with the customers, that may not be practical. And, again competition may be giving more credit period. So, an ideal, optimum level of this ratio is required. But what I introduced you to is another sub ratio or a follow up ratio of the debtors turnover ratio which is called the collection period. The collection period for this business is 36.5 days, assuming that the debtor turnover ratio is 10 times. So, this ratio indicates the efficiency with which the debtors are being converted into cash, the average collection period. And, the first ratio helps us understand the level of outstanding amount to be recovered from the customers vis a vis sales. So, this is another kind of efficiency ratio.

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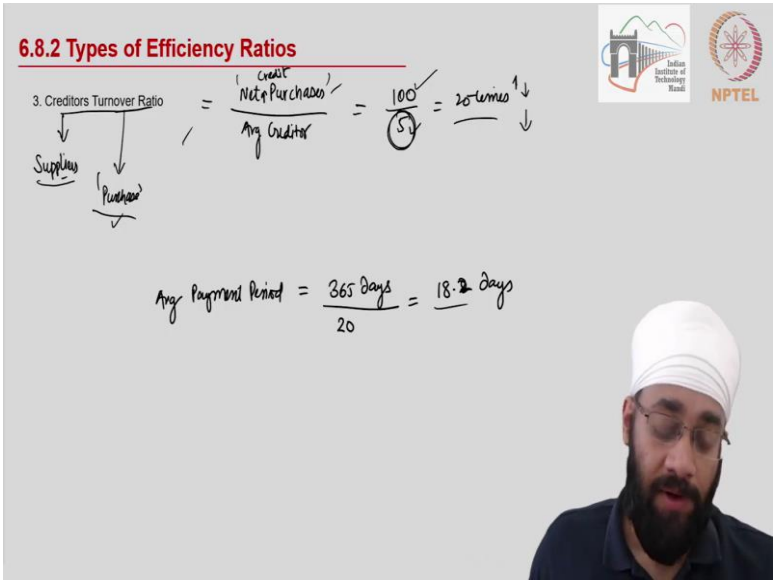

Let us move forward to the third indicator which is called ***Creditors Turnover Ratio***, exactly opposite of the debtors turnover ratio. Who are the creditors? Creditors are our vendors, our suppliers, and we have received goods from them and we have to pay them. These are the credit purchases that we have done. So, creditors turnover ratio or the turnover here is going to be related to purchase rather than sale because, creditors are the people to whom money has to be paid in exchange of the purchases that you have done. So, the ratio is calculated as net purchases and on credit. I should write net credit purchases that you have done and divided by the average creditors level, that you maintain during the year. You calculate average creditors in the same way; the opening balance of creditors plus the closing balance of creditors is divided by 2; you find the average creditors. The net credit purchases are again given in the income statement, you can figure it out to say this is the amount and let us say this comes out to be 100 is this and 5. So, 20 times is your creditors turnover ratio. What does it mean? Creditor turnover ratio means of the 100 rupees credit purchase that you do, 5 rupees is always to be paid to the creditor. Do you want this ratio to be high or to be low? Well, you want this ratio to be low, because you do not want to pay your suppliers very frequently. You want a lot of money to be outstanding, to be paid to your suppliers, because you want to keep the cash in the business. So, you want to delay the payments to your suppliers as much as possible, within the policy allowed by the supplier. If the supplier is giving you a 2 months credit period, you do not want to pay within 1 month; because you can keep that money with you for 2 months and make additional interest by depositing it in the bank account. You can make additional interest for 1 more month, for example; so, you want to delay the payments. So, you want this ratio to

be as low as possible, you want this denominator to be as high as possible. But, if you are not paying your creditors, that can be bad for the health of the company as well. So, just bear that in mind, again go to the industry, look at the competitors, what are they doing, accordingly decide what is the ideal ratio for you. Now, there is another follow up to this, just like in case of the debtors turnover ratio, this is called average payment period. And, the average payment period is the number of days in a year divided by the creditors turnover ratio. This is 18.2 days. This means that you are paying to your creditors every 18th day, you want to pay your creditors not every 18th day, but every 60th day because your creditors have allowed you 2 months of current period. So, that is how you interpret, that is how you make use of these ratios, these numbers. This ratio tells you the efficiency with which you are managing your creditors; you want to delay the payments, you want the turnover ratio to be as low as possible. So, using these numbers you can indicate, you can figure out, you can conclude, whether or not this business is handling its creditors efficiently vis-a-vis previous years, vis-a-vis the competitors, and so on.

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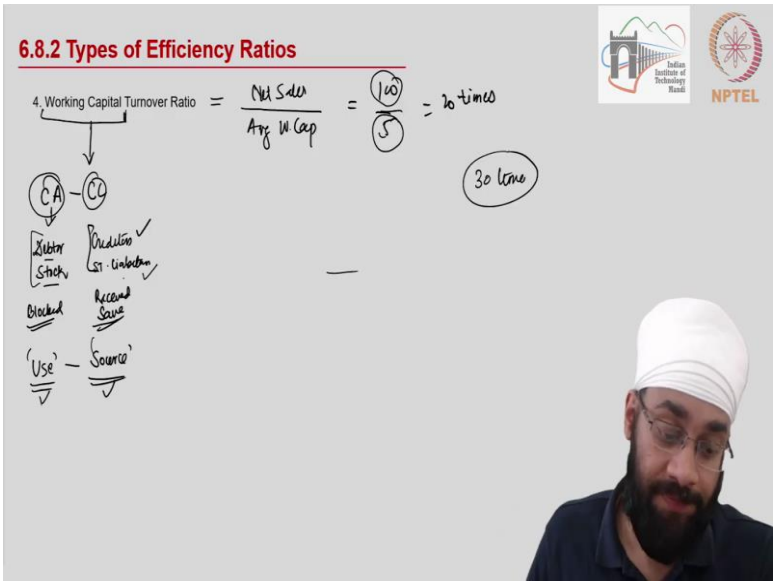

Let us move on to the next efficiency ratio which is called ***Working Capital Turnover Ratio***. What does this mean? The working capital is something new, so let us discuss this. There is a capital which is the money invested by shareholders or preference shareholders. We also spoke about the capital employed in the business, where we said even the money brought in by the long-term liabilities can also be called a capital from the point of view of the company. Now, we are talking about another concept of capital which is called working capital. The working

capital refers to the money which has to be invested in the regular course of business, in the very short term. For example, in order to start a business, you need to purchase some fixed assets. So, long term capital has to be invested. After having invested the long-term capital, now you need to do the daily business. You have to buy from the supplier and then sell to the customer. The customer will come, let us say, 10 customers a day, but you cannot purchase the number of units every day, you will purchase in bulk. And, assume your vendor is not allowing you any credit period; so, you will have to purchase a large amount of stock, put your money in and then keep that stock in your retail outlet and then sell it every day. You are going to recover this amount from the customers over many days, but to the vendor you have to pay right now. So, this money that has been blocked in the stock is called working capital. So, not only stock, but there can be other places where the money needs to be blocked. For example, you have hired help; you may need to pay this person regularly. Again, you need to have money, but the customer is going to come at its own pace. So, there are places in the business, where you have to invest money in the short run and then you recover that money from the customers. This is called working capital. How do you calculate working capital is as follows; you deduct current liabilities from the current assets. Why? The current assets are your debtors, stock, for example, these two items. These are the places where you have to block your money. On the other hand, the creditors, and say, short term liabilities, or outstanding expenses, for example, are the places where you do not block the money. The money gets blocked in current assets and but in current liabilities actually you do not block the money, you save the money temporarily by not paying to creditors, you save that money by not paying the outstanding expenses, you have that money with you. So, this is kind of a source, all liabilities are a source of money. And then on the other side, debtors are customers to whom you have sold, but they have not paid you; you have blocked your money. The stock with you has not been sold; you have blocked your money. So, this is a kind of use of the funds in the short run. So, when the uses are more than the sources you have invested in the working capital of the company; that is how the working capital concept is defined. So, uses minus the sources, whenever sources are less and uses are more; you have the working capital which has been invested. So, just go to the balance sheet, pick up these two numbers and you have working capital.

Now, how do we calculate the ratio is the next question and the ratio is as follows. Say you take total sales, net sales. I keep writing net because there can be returns on the sales. So, you take the final number. Net sales divided by the average working capital, this gives you let us say again this is 100, this is 5; 20 times. 20 times is the working capital turnover ratio. What

does it say? It says you are blocking 5 rupees in the business and you are able to generate 20 times the sales, that is how the efficiency is being measured. You look at your competitor; your competitor is able to generate 30 times the working capital; a sale equal to 30 times the working capital invested in the business. So, the higher the ratio, the more efficient you can say people are. Again, do you want this ratio to be too high or too low; look at the industry scenario industry structure. So, that is the working capital turnover ratio, another ratio, another indicator which helps you understand the efficiency with which the current assets and current liabilities are being managed by the business.

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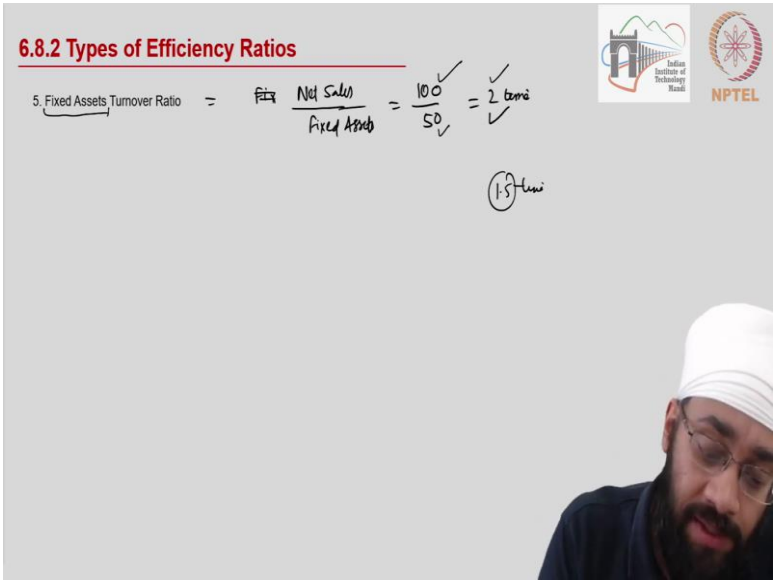

Let us go to the final indicator under the efficiency ratios, this is called ***Fixed Asset Turnover Ratio***. There is no confusion around what are fixed assets, we are going to take the fixed assets; actually, net sales divided by fixed assets. So, all we are saying is if sales is 100 and fixed assets are 50, then you are able to generate sales which are twice the investment that you have made in the fixed assets, that is it.

What is the efficiency with which you are using your assets? Well, we are able to generate 100 rupees worth of sales using only 50 rupees worth of investment in the fixed asset. So, our fixed asset turnover ratio is 2 times. Our competitor has a fixed asset ratio of let us say 1.5 times. He is not able to generate as much turnover, he is not able to convert, he is not able to help; he is not able to use his fixed assets to generate the sales as much as we are able to do. So, you want

this number again to be as high as possible, but again compare it to industry standards, compare it to competitors, and say how high can you go, how low should you be and so on.

So, there you go, we have discussed five turnover ratios which indicate to you the efficiency with which the stock is being used, the debtors are being used, the creditors are being managed, the working capital is being used and finally, the fixed assets are being used in running the business.