COLLEGE OF ACCOUNTING

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Video Transcription: Direct and Indirect Costs – Part 2: Allocation of Indirect Costs

Hi there, in this video we are going to look at when product, labour and overhead costs are treated as being direct or indirect, as well as look at the allocation of overheads, and we are going to round it up altogether by calculating the total cost to make a milkshake.

Thinking back to the product cost involved in Tam's milkshake process: ice cream was 50 cents, milk cost R1 and the chocolate bar was R3. Did this mean that the total cost of one milkshake was R4,50? No. Remember, Tam also incurred the cost of the person making the milkshake, the electricity cost as well as the depreciation.

But before we calculate the cost per milkshake, let's look at the distinction between direct and indirect costs. We know that the materials such as milk form the basis for Tam's milkshake. Is it possible for the milk to be used anywhere else? No, if the milk is used to make the coffee, Tam cannot use the same milk in the milkshake.

So, as these costs are directly a tributary to making a certain product, they are classified as direct costs. Direct costs can be accurately traced back to the making of a product.

What about the electricity expense? Is the electricity expense only used by the mixer for the milkshake process? No, electricity is needed to run other components in the business.

As this cost is not directly linked with the product, it is deemed to be an indirect cost. Indirect costs cannot be accurately traced back to the making of a product.

Since electricity is not only used to make milkshakes, it would not make sense for the full cost of electricity to be added back to the cost of the milkshake.

So therefore, we need to allocate a certain portion of the electricity cost to the milkshake. How can we allocate these costs? Tam's total electricity cost amounts to R1000 and Tam makes 500 milkshakes per month. 25% of her electricity costs are due to the making of milkshakes, the other 75% is for general costs such as lights and the coffee process.

So, how much of the total electricity cost should we allocate to the making of a milkshake? R250 or 25% of 1000 should be allocated to making milkshakes. If the electricity cost of making the milkshakes is R250 and 500 milkshakes are made, we will therefore allocate 50 cents cost per milkshake.

So, overhead allocation is allocating a total cost based on the usage of that cost. In this case, electricity. Let's look at the remaining costs in our milkshake example. Firstly, labour. Tam employs one employee, whose sole responsibility is to make the milkshakes. They are paid a wage rate of R10 per hour. Would this cost be direct or indirect?

It is a direct cost because the cost is directly related to the production of a milkshake. If we think about traceability, this cost can be easily traced back to the cost of a milkshake. The cost per unit can be calculated if we divide the total labour cost by the number of milkshakes made. The total labour cost is equal to the monthly hours, in this case 120 multiplied by the cost per hour, which is R10. We then divide the cost of 1 200 by the 500 milkshakes made, this results in a labour cost of R2,40 per milkshake.

Would your answer be different, if the employees only responsibility was to clean the mixer and the working area?

Yes. In this instance, it would be classified as an indirect cost as we are not able to determine where exactly the cost per milkshake is incurred. It would not be traceable and as such an indirect cost. We would therefore need to allocate the labour cost to each milkshake in a similar method to how we did with the electricity.

Let's look at depreciation. Would the depreciation of the milkshake mixer be classified as direct or indirect cost, or does it depend?

It would depend. But, on what? If depreciation is on the unit's basis then we are able to directly trace the depreciation cost to the product. In this case, it would be classified as a direct cost. If depreciation is on a time-basis, then we are not able to pinpoint exactly when the depreciation is incurred. In that instance, it would not be traceable and therefore be classified as an indirect cost. Let's assume that the machine costs R2 400, and can be used to make 12 000 milkshakes. In this instance the depreciation per milkshake can be calculated by taking the R2 400 and dividing by the number of milkshakes of 12 000. This would result in a cost of 20 cents, which is treated as a direct cost per milkshake.

What if the mixer is used to make both milkshakes, as well as blending the coffee beans? In this example, the cost remains the same of R2 400. The estimated use for life is 12 months and the machine will be used evenly to make milkshakes and coffee beans. To calculate the depreciation cost allocated to the milkshakes, we must determine the milkshake's proportionate use of the mixer. So the total cost of R2400 must be allocated evenly between the milkshakes and the blending of the coffee beans. Is this the correct thought process? Yes. The usage of the mixer drives the cost. Using the mixer evenly should drive how we allocate the depreciation cost to the milkshakes. The total mixer depreciation amounts to R2400 and, as the milkshakes use half of the mixer's time, the cost allocated to the milkshake is R1 200.

So, should we add R1 200 per milkshake? No. The R1 200 is a depreciation incurring over an entire year. The depreciation cost therefore amounts to R100 per month. This was taken from the total cost of R1 200 and divided by 12 months. We are told that 500 milkshakes are produced per month. So, the mixer's depreciation allocated per milkshake amounts to 20 cents. This was calculated by taking the monthly depreciation cost and dividing it by the total number of milkshakes. So, what is the cost per milkshake? It costs 50 cents for ice cream, R1 for the milk, R3 for the chocolate bar, 50 cents for the electricity, R2.40 for the labour and lastly 20 cents for the mixer depreciation. This amounts to a total cost of R7.60 per milkshake. Compare the R7.60 cost per milkshake to the initial cost per units of R4.50 calculated when only using the cost of the ingredients. Knowing the correct cost would have a significant impact on the final decision as to whether Tam should introduce the milkshakes as well as the price at which to sell the milkshakes should she go ahead.

Can you see how important costing is? If we did not account for our direct and our indirect cost and we did not understand how to allocate our overheads to a product, we could severely underestimate our costs. This would result in a significant loss for the company.