Relevant Costs for Decision Making

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Whenever we are trying to make a decision between two alternative propositions, we first need to identify the **relevant costs**. Costs that are the same for both propositions are not relevant to the decision.

An **avoidable cost** is one which can be avoided by choosing one proposition over the other. For example, if we choose to go to a movie theatre instead of buying a DVD, the cost of buying the DVD is avoided. Thus, this is a relevant cost. By contrast, if we are getting popcorn either way, that cost is unavoidable and is thus irrelevant.

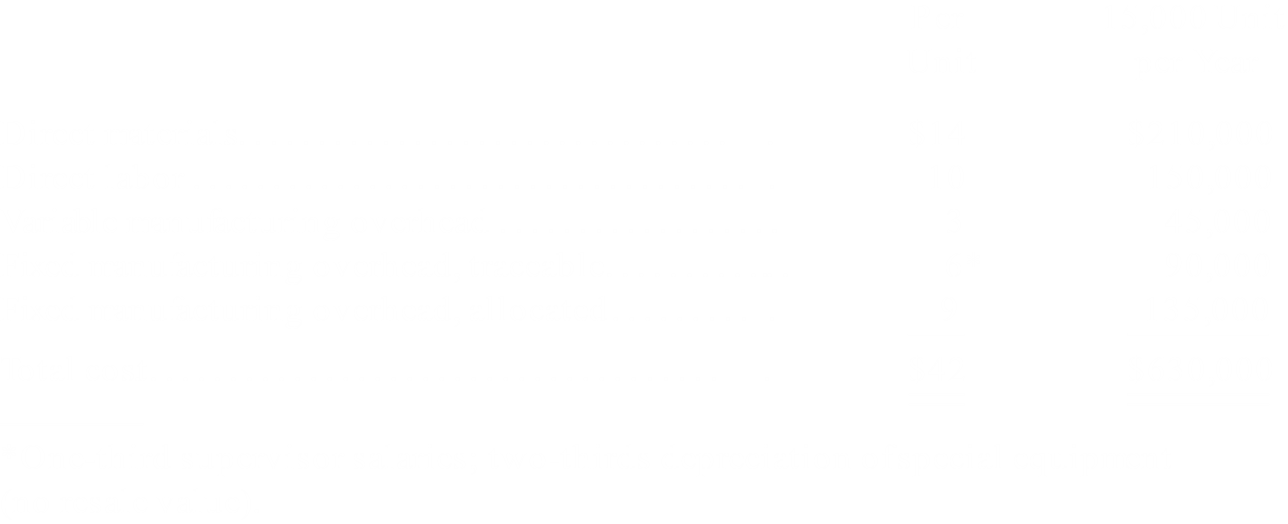
There are two broad categories of costs that are never relevant:

* **Sunk Costs** – These are costs that have already been incurred and cannot be avoided in any case.
* **Future Costs that do not differ between the alternatives** – Simply put, these are costs that will be incurred in the future regardless of which alternative we choose.

Another cost that should be taken into account is the **opportunity cost**. For example, suppose a factory is being used to produce Equipment A, and another offer comes from a supplier to buy Equipment A readymade from them. To make this decision, we would need to take all the relevant costs into account. However, suppose that if we choose to stop producing Equipment A ourselves, we can use the factory to produce Product B, which we can sell. In this case, the cost of not profiting off Product B, i.e. the opportunity cost of producing Equipment A, must also be taken into account. The portion of the total profit that Product B would contribute to is called the **segment margin**.

Example

Consider the following information regarding the production of some equipment:



Suppose we get an alternative offer to buy the equipment for $35 each. To make this decision, we need to compare the relevant costs:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Total Relevant Costs | |
|  |  | Make($) | Buy($) |
| Direct Material () | | 210,000 |  |
| Direct Labour () | | 150,000 |  |
| Variable Manufacturing Overhead () | | 45,000 |  |
| Fixed Manufacturing Overhead, Traceable () | | 30,000 |  |
| Fixed Manufacturing Overhead, Allocated [Not Relevant] | |  |  |
| Outside Purchase Price () | |  | 525,000 |
|  | Total Cost | 435,000 | 525,000 |
| Difference in favour of continuing to make | | 90,000 | |

Note: Supervisor salaries are relevant costs and depreciation of special equipment are irrelevant costs.

The supplier’s offer should not be accepted.

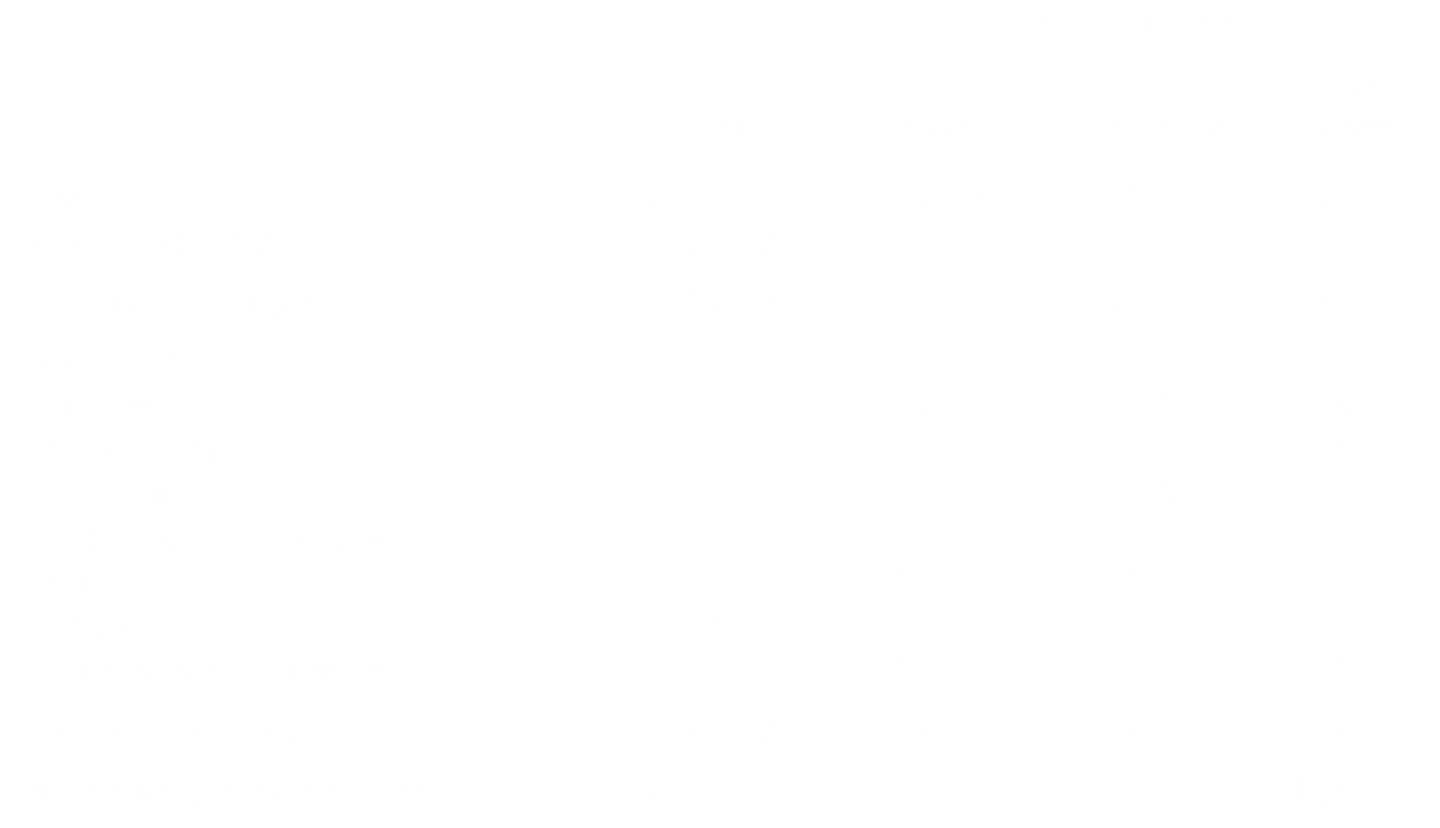
On top of this information, suppose the space used to manufacture the equipment can be used to produce some other equipment with a segment margin of $130,000 if we accept the suppliers offer.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Total Relevant Costs | |
|  |  | Make($) | Buy($) |
| Total Annual Cost | | 435,000 | 525,000 |
| Opportunity Cost | | 150,000 |  |
|  | Total Cost | 585,000 | 525,000 |
| Difference in favour of  purchasing from outside supplier | | 60,000 | |

The suppliers offer should be accepted.

## Adding and Dropping Product Lines

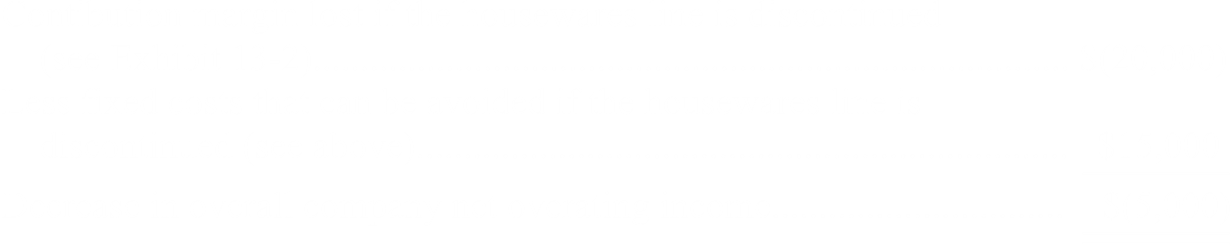
Suppose we have the following product lines, and we want to decide whether or not Housewares should be dropped (since it is suffering from a loss).



As always, we need to compare the avoidable and unavoidable expenses to make the decision:

|  |  |  |
| --- | --- | --- |
| Fixed Expenses Assigned  to Housewares | Not Avoidable  ($) | Avoidable  ($) |
| Salaries |  | 8,000 |
| Advertising |  | 6,500 |
| Utilities | 1,000 |  |
| Depreciation – Fixtures | 2,000 |  |
| Rent | 4,000 |  |
| Insurance |  | 500 |
| General Administrative | 6,000 |  |
| Total | 13,000 | 15,000 |

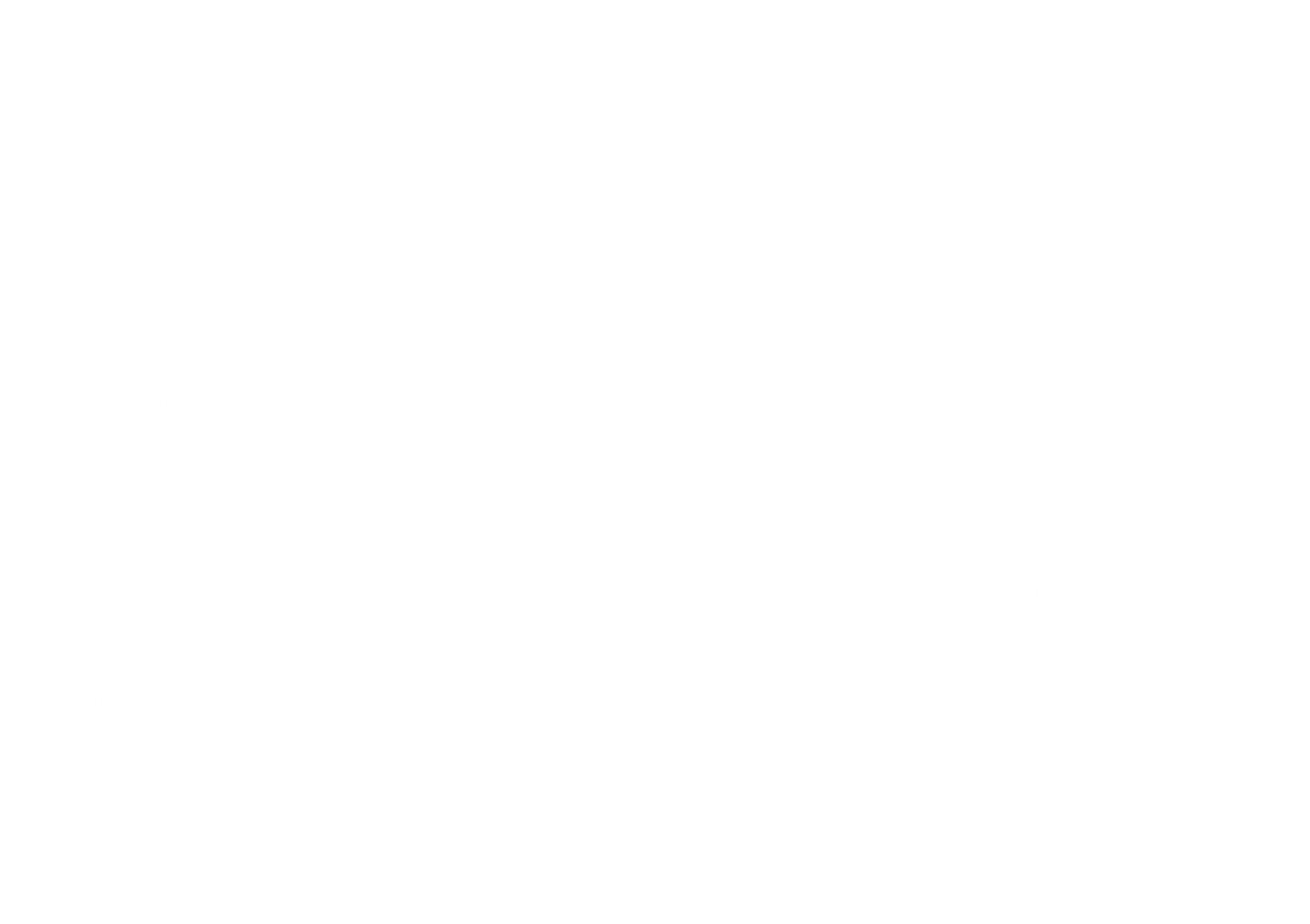
As can be seen, a total cost of $15,000 can be avoided by dropping the Housewares product line. However, we need to compare this amount with the contribution margin, i.e. the portion of the profit that comes from this product line.



Thus, even though we are facing a loss of $8,000 from the product, it is still in our best interest to keep the product. This is because only a portion of the expenses will be decreased by discontinuing the product, not the entire amount. This decrease is not enough to cover the decrease in profit from the product.

### Allocated Fixed Costs

The reason the amount of avoidable expenses from dropping the product was lower than the total fixed expenses was because not all of the fixed expenses come directly from the product itself. Some fixed expenses are not directly related to the product, but have still been partially assigned to the product, since the expenses must be divided amongst the products. These expenses are called the **allocated fixed costs**. On the other hand, the expenses that can be directly traced back to the product are called its **traceable fixed expenses**. We can create another table that shows this information.



Here, the segment margin clearly shows that the product is making more money that its own expenses, meaning it is at a profit. The only case in which it would be beneficial to drop the product would be if we could then replace it with a product that would have a higher segment margin.