

## Answer on question #59215 -Economics - Microeconomics

Swagat Manufacturing Sdn. Bhd. needed to determine if it would be cheaper to make 10,000 units of a component in-house or to purchase them from an outside supplier for \$4.75 each.

Cost information on internal production includes the following:

Costs in-house	Total Cost	Unit Cost
Direct materials	\$ 10 000,00	\$ 1,00
Direct labour	\$ 10 000,00	\$ 1,00
Variable overheads	\$ 8 000,00	\$ 0,80
Fixed overheads	\$ 44 000,00	\$ 4,40
<b>Total</b>	<b>\$ 82 000,00</b>	<b>\$ 8,20</b>

Fixed overhead will continue whether the component is produced internally or externally. No additional costs of purchasing will be incurred beyond the purchase price.

Required:

- b. Which alternative is more cost effective and by how much?
- c. Now assume that the fixed overhead includes \$10,000 of cost that can be avoided if the component is purchased externally. Which alternative is more cost effective and by how much?

### Solution

b)

Costs	Produced internally 10000 units		Purchased externally 10000 units		Effectiveness, external to internal alternative	
	Total Cost in-house, \$	Unit Cost in-house, \$	Total cost purchase, \$	Unit cost purchase, \$	Total cost, \$	%
Direct materials	10 000	1,00				
Direct labour	20 000	2,00				
Variable overheads	8 000	0,80				
Fixed overheads	44 000	4,40	44 000	4,40		
Purchase costs			47 500	4,75		
<b>Total</b>	<b>82 000</b>	<b>8,20</b>	<b>91 500</b>	<b>9,15</b>	<b>9 500</b>	<b>11,59%</b>

Producing in-house 10,000 of units is more effective than purchasing components externally. Total production costs are less by \$ 9, 500 than purchasing outside because fixed overheads have an essential portion in the cost structure the company.

So, producing internally has higher effectiveness by 11.59% than externally purchasing.

c)

Costs	Produced internally 10000 units		Purchased externally 10000 units		Effectiveness, external to internal alternative	
	Total Cost in-house, \$	Unit Cost in-house, \$	Total cost purchase, \$	Unit cost purchase, \$	Total cost, \$	%
Direct materials	10 000	1,00				
Direct labour	20 000	2,00				
Variable overheads	8 000	0,80				
Fixed overheads	44 000	4,40	34 000	3,40		
Purchase costs			47 500	4,75		
<b>Total</b>	<b>82 000</b>	<b>8,20</b>	<b>81 500</b>	<b>8,15</b>	<b>- 500</b>	<b>-0,61%</b>

In the second case, if company produces 10,000 of units internally, the firm's production is more expensive than purchasing components externally.

The company's total production costs will grow by \$ 500 than purchasing outside if fixed overheads will be reduced by \$ 10,000 for buying outside.

So, the purchasing outside has higher effectiveness by 0.61% than internal production.

### Answer

b) The production in-house would be more effective by 11.59 percent than the buying outside.

c) The purchasing of components externally would be cheaper by 0.61 % than producing them in-house.