

# Sales Mix



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# Sales Mix

- Sales mix comes into play because most companies sell more than one item.
- The textbook I am working with does it a different way that I would prefer.
- By combining what we know from other math processes within accounting we have another matrix table.

# Sales Mix

- The first requirement is to build a logical table of values.
- We must be given the basic information, sales price and variable cost per unit and the number of units sold in the sales mix.
- From that we can compute the contribution margin.

	<b>Best:</b>	<b>Better:</b>	<b>Good:</b>	<b>Total:</b>
Sales price per unit:	\$55.00	\$45.00	\$30.00	
Variable costs per unit:	\$29.50	\$23.75	\$11.25	
Contribution margin per unit: (CM)	\$25.50	\$21.25	\$18.75	
Multiply by the number of units in the sales mix:	3	6	4	
Percentage of sales mix:	23.08%	46.15%	30.77%	100.00%
CM multiplied by the units in the sales mix:	\$76.50	\$127.50	\$75.00	\$279.00

# Sales Mix

- Contribution margin per item is important and is computed as \$25.50, \$21.25, and \$18.75 for the product lines.
- The next step is the relational number of item sales in the sales mix – 3 for Best, 6 for Better, and 4 for Good.

	<b>Best:</b>	<b>Better:</b>	<b>Good:</b>	<b>Total:</b>
Sales price per unit:	\$55.00	\$45.00	\$30.00	
Variable costs per unit:	\$29.50	\$23.75	\$11.25	
Contribution margin per unit: (CM)	\$25.50	\$21.25	\$18.75	
Multiply by the number of units in the sales mix:	3	6	4	
Percentage of sales mix:	23.08%	46.15%	30.77%	100.00%
CM multiplied by the units in the sales mix:	\$76.50	\$127.50	\$75.00	\$279.00

# Sales Mix

- From the relational sales we need to compute the percentages of sales, 3 for Best  $\div$  (3 + 6 + 4) = 23.08%.
- For Better it is 46.15% and for Good it is 30.77%.
- This mix **MUST** total 100% for the concept to work.

	<b>Best:</b>	<b>Better:</b>	<b>Good:</b>	<b>Total:</b>
Sales price per unit:	\$55.00	\$45.00	\$30.00	
Variable costs per unit:	\$29.50	\$23.75	\$11.25	
Contribution margin per unit: (CM)	\$25.50	\$21.25	\$18.75	
Multiply by the number of units in the sales mix:	3	6	4	
Percentage of sales mix:	23.08%	46.15%	30.77%	100.00%
CM multiplied by the units in the sales mix:	\$76.50	\$127.50	\$75.00	\$279.00

# Sales Mix

- By extending the contribution margin per item by the number of items in the sales mix we can compute the item and total contribution margin - \$76.50 for Best, \$127.50 for Better, \$75.00 for Good with a total of \$279.00.

	<b>Best:</b>	<b>Better:</b>	<b>Good:</b>	<b>Total:</b>
Sales price per unit:	\$55.00	\$45.00	\$30.00	
Variable costs per unit:	\$29.50	\$23.75	\$11.25	
Contribution margin per unit: (CM)	\$25.50	\$21.25	\$18.75	
Multiply by the number of units in the sales mix:	3	6	4	
Percentage of sales mix:	23.08%	46.15%	30.77%	100.00%
CM multiplied by the units in the sales mix:	\$76.50	\$127.50	\$75.00	\$279.00

# Sales Mix

- Using the Sales Price and relational sales numbers we need to compute the Sales Revenues for each item and the totals sales revenues.
- \$165.00 for Best, \$270.00 for Better, \$120.00 for Good with a total of \$555.00.

CM multiplied by the units in the sales mix:	\$76.50	\$127.50	\$75.00	\$279.00
	<b>Best:</b>	<b>Better:</b>	<b>Good:</b>	<b>Total:</b>
Sales price per unit:	\$55.00	\$45.00	\$30.00	
Multiply by the number of units in the sales mix:	3	6	4	
Sales revenue for basket and mix:	\$165.00	\$270.00	\$120.00	\$555.00
<b>Weighted average contribution margin ratio:</b>				50.27%

# Sales Mix

- Knowing Total Contribution Margin, \$279.00 and Total Sales Revenues, \$555.00, we can determine Weighted Contribution Margin ( $\$279.00 \div \$555.00$ ) of 50.27%.

CM multiplied by the units in the sales mix:	\$76.50	\$127.50	\$75.00	\$279.00
	<b>Best:</b>	<b>Better:</b>	<b>Good:</b>	<b>Total:</b>
Sales price per unit:	\$55.00	\$45.00	\$30.00	
Multiply by the number of units in the sales mix:	3	6	4	
Sales revenue for basket and mix:	\$165.00	\$270.00	\$120.00	\$555.00
<b>Weighted average contribution margin ratio:</b>				<b>50.27%</b>



# Sales Mix

- From the setup information we know fixed costs of \$4,500 and target operating income of \$7,750 so we know the total the contribution margin needs to cover - \$12,250.

Fixed costs:	\$4,500.00
Target operating income:	\$7,750.00
Total:	\$12,250.00
Weighted contribution margin:	50.27%
Total sales dollars:	\$24,368.28
Best sales dollars: (Rounded up)	\$5,623.45
Better sales dollars: (Rounded up)	\$11,246.90
Good sales dollars: (Rounded up)	\$7,497.94

# Sales Mix

- $\$12,250 \div 50.27\%$  results in Total Sales Dollars of \$24,368.28.
- Best is responsible for 23.08%, Better is responsible for 46.15%, and Good is responsible for 30.77%.

Fixed costs:	\$4,500.00
Target operating income:	\$7,750.00
Total:	\$12,250.00
Weighted contribution margin:	50.27%
Total sales dollars:	\$24,368.28
Best sales dollars: (Rounded up)	\$5,623.45
Better sales dollars: (Rounded up)	\$11,246.90
Good sales dollars: (Rounded up)	\$7,497.94

# Sales Mix

- Therefore, Best is responsible for ( $\$24,368.28 \times 23.08\%$ ) \$5,623.45, Better is responsible for ( $\$24,368.28 \times 46.15\%$ ) \$11,246.90, and Good is responsible for ( $\$24,368.28 \times 30.77\%$ ) \$7,497.94.

Fixed costs:	\$4,500.00
Target operating income:	\$7,750.00
Total:	\$12,250.00
Weighted contribution margin:	50.27%
Total sales dollars:	\$24,368.28
Best sales dollars: (Rounded up)	\$5,623.45
Better sales dollars: (Rounded up)	\$11,246.90
Good sales dollars: (Rounded up)	\$7,497.94

# Sales Mix

- Applying those values of sales dollars per item we can build the table that provides us with sales per item and proves our application.
- Each item's Total Sales Dollars is divided by its Sales Price to generate unit sales – rounded up.
- Follow any textbook instructions on rounding.

<b>Income proof:</b>	<b>Best:</b>	<b>Better:</b>	<b>Good:</b>	<b>Total:</b>
Total sales dollars:	\$5,623.45	\$11,246.90	\$7,497.94	\$24,368.29
Sales price per unit:	\$55.00	\$45.00	\$30.00	
Unit sales:	103	250	250	603
Total variable costs for item:	\$3,038.50	\$5,937.50	\$2,812.50	\$11,788.50
Contribution margin for item / total:	\$2,584.95	\$5,309.40	\$4,685.44	\$12,579.79
Less total fixed costs and target operating income:				\$12,250.00
Income from operations:				\$329.79

# Sales Mix

- Knowing Total Sales Dollars and Total Variable Costs per item we can determine Contribution Margin (Sales – Variable Costs) for each item.
- CM is \$2,584.95 for Best, \$5,309.40 for Better, and \$4,685.44 for Good with a total of \$12,579.79.

<b>Income proof:</b>	<b>Best:</b>	<b>Better:</b>	<b>Good:</b>	<b>Total:</b>
Total sales dollars:	\$5,623.45	\$11,246.90	\$7,497.94	\$24,368.29
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Income from operations:				\$329.79

# Sales Mix

- This Total Contribution Margin of \$12,579.79 is adequate to cover our Fixed Costs of \$4,500 and Target Income from Operations of \$7,750, \$12,250.
- The excess above the \$12,250 is due to rounding up of fractional units to be sold.

<b>Income proof:</b>	<b>Best:</b>	<b>Better:</b>	<b>Good:</b>	<b>Total:</b>
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Less total fixed costs and target operating income:				\$12,250.00
Income from operations:				\$329.79

# Sales Mix

- For major corporations there may be thousands of items in the sales mix.
- The key is that the Percentage of Sales Mix must total exactly 100%.
- With fractional units rounded up at all stages you will usually come out above the total of fixed costs and target operating income.
- The second key, is one step at a time.

# Sales Mix

The end.