

## Exhibit 7-2: Value, Worth, and ROI: Voice Messaging Example

*Instructions:* The following are guidelines for calculating the value of a given set of interventions, the worth of these interventions compared with costs, and the ROI for the entire project.

1. State lowest individual deficiency/improvement cost; state highest individual deficiency/improvement cost. If this is an estimate, you must work with client specialists to obtain these.

lowest =                     \$10                          highest =                     \$20                    

2. State lowest and highest number of deficiencies/improvements per worker per year (or other suitable time period). If this is an estimate, you must work with client specialists to obtain these.

lowest frequency =                     110/year                          highest frequency =                     220/year                    

3. Multiply lowest and highest frequencies per individual worker by the number of workers to obtain total deficiencies/improvements per year (or specified time period).

lowest frequency x number of workers =                     110 x 300 = 33,000                      
 highest frequency x number of workers =                     220 x 300 = 66,000                    

4. Multiply lowest individual cost by lowest frequency and highest individual cost by highest frequency to establish range of annual value.

<u>                    \$10                    </u>		<u>                    33,000                    </u>		<u>                    \$330,000                    </u>
lowest individual cost	x	lowest total frequency	=	lowest value
<u>                    \$20                    </u>		<u>                    66,000                    </u>		<u>                    \$1,320,000                    </u>
highest individual cost	x	highest total frequency	=	highest value

5. Multiply number of expected years of life of the recommended interventions by the lowest and highest values.

<u>                    3                    </u>		<u>                    \$330,000                    </u>		<u>                    \$990,000                    </u>
number of years	x	lowest value	=	lowest total value
<u>                    3                    </u>		<u>                    \$1,320,000                    </u>		<u>                    \$3,960,000                    </u>
number of years	x	highest value	=	highest total value

Existing data show that the:

- Average cost of handling customer complaints = \$48
- Average number of complaints handled annually = 8,000
- Average annual cost of complaint handling =  $8,000 \times \$48$   
\$384,000
- Average cost of fines plus associated legal and administrative fees = \$870,000

Therefore:

- Lowest total value (deficiencies, complaint handling, and fines) =  $\$990,000 + 3 (\$384,000 + \$870,000)$   
= \$4,752,000
- Highest total value (deficiencies, complaint handling, and fines) =  $\$3,960,000 + 3 (\$384,000 + \$870,000)$   
= \$7,722,000

6. Multiply lowest total value by the lowest percentage of anticipated impact from recommended interventions and highest total value by highest percentage of anticipated impact to establish range of estimated values obtained from the recommendations. It is essential to work with client experts to determine the percentages.

40%		\$4,752,000		\$1,900,800
lowest percentage	x	lowest total value	=	lowest estimated value
60%		\$7,722,000		\$4,633,200
highest percentage	x	highest total value	=	highest estimated value

7. To calculate worth, divide lowest and highest estimated values over the expected years of life of the interventions by the estimated total cost.

$$W_L = \frac{V_L}{C} \quad W_H = \frac{V_H}{C}$$

$$= \frac{\$1,900,000}{\$683,491^*} = \frac{\$4,633,200}{\$683,491}$$

$$= 2.78 \quad = 6.78$$

\*estimated total cost previously calculated

8. Express the results as a ratio.

$$W_L = 2.78:1 \quad W_H = 6.78:1$$

9. To calculate ROI, enter the estimated value and cost figures (potential ROI) or true figures (actual ROI). Divide lowest and highest values minus total cost by total costs, and multiply by 100.

$$ROI_L = \frac{V_L - C}{C} \times 100 \quad ROI_H = \frac{V_H - C}{C} \times 100$$

$$= \frac{\$1,900,000 - \$683,491}{\$683,491} \times 100 = \frac{\$4,633,200 - \$683,491}{\$683,491} \times 100$$

$$= 178.1 \quad = 577.9$$

10. Express the results as a percentage.

$$ROI_L = 178.1\% \quad ROI_H = 577.9\%$$