

## CHAPTER 3

### Opportunity #1

- $C + AR + S + P - AD = NP + AP + CS + RE + R - E$
- (a) 100000 = 100000
- (b) 50000 = 50000
- (c) -48000 48000 =
- (d) 2000 = 2000
- (e) = 500 -500
- (f) -1000 = -1000
- (g) 2000 = 2000
- (h) -1000 = -1000
- (i) 200 -200 =
- (j) -417 = -417
- (k) -300 = -300
- (l) -750 = -750
- $99783 + 1800 + 1700 + 48000 - 750 = 50000 + 2500 + 100000 + 0 + 2000 - 3967$
- 150,533 = 150,533

Where:

C = cash

AR = accounts receivable

S = supplies

P = Pianos/Plant and equipment

AD = accumulated depreciation

NP = notes payable

AP = accounts payable

CS = common stock

RE = retained earnings

R = revenue

E = expense

#### **CHAPTER 4**

##### **Opportunity #1**

14250 units X 7 lines X \$.35 = **\$34,912.50**

##### **Opportunity #2**

160 hours X .70 utilization X 5 employees X \$55 per hours = **\$30,800**

##### **Opportunity #3**

- a)  $\$127,000/\$100 = 1,270$  units last month
- b)  $\$134,000/\$100 = 1,340$  units this month
- c)  $300 - (1340 - 1270) = 230$  units
- d)  $230/1270 = 18.1\%$

##### **Opportunity #4**

40 units X 3 salespeople X 50% = 60

40 units X 2 salespeople X 75% = 60

40 units X 5 sales people X 100% = 200

60+60+200= 320 units

320 units X \$1050 = **\$336,000**

##### **Opportunity #5**

1,000,000 X 42% X 20% = 84,000

a) Year 1 84,000 X 4% = **3,360**

Year 2 84,000 X 8% = **6,720**

Year 3 84,000 X 12% = **10,080**

b) Year 1  $84,000 \times 1\% = 840$

Year 2  $84,000 \times 2\% = 1680$

Year 3  $84,000 \times 3\% = 2520$

c) Year 1  $(.5)840 + (.5)3,360 = 2,160$

Year 2  $(.5)1,680 + (.5)6,720 = 4,125$

Year 3  $(.5)2,520 + (.5)10,080 = 6,300$

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#### Opportunity #6

15000 units per line per month  $\times$  2 lines  $\times$  12 months = **360,000 units**

No, it cannot reach that goal with just 2 lines.

#### Opportunity #7

3 lawyers  $\times$  40 hours per week  $\times$  40% utilization  $\times$  \$200 per hours = **\$9,600**

#### Opportunity #8

$1,200 \times 4.5\% = 54$  units

#### Opportunity #9

$\$24,000 - \$21,000 - \$2,275 = \$725$  left to pay salesperson

$\$4,000 / \$725 =$  approximately 5.5 cars per salesman

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#### Opportunity #10

$\$1,000,000 / \$200 = 5000$  units

10,000,000 population  $\times$  50%  $\times$  market share = 5000

Solve for market share:

$5000 / 10,000,000 = .1\%$  market share

## CHAPTER 5

### Opportunity #1

Break-even Quantity =  $F/(P-V)$

$$\$2,000,000 / (1000 - 550) = 4,444.4 \text{ units}$$

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### Opportunity #2

$$(\$50,000 \times (1 + 0.0765)) + \$7,200 = \$61,025$$

### Opportunity #3

$\$120 \times 2.5 \text{ months} = \$300$  commission per sale

$$55 \text{ units} \times \$300 = \$16,500 \text{ total commission}$$

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$$55 \text{ units} \times \$25 \text{ hook up} = \$1,375 \text{ total hook up costs}$$

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$$55 \text{ units} \times \$50 \text{ service} = \$2,750 \text{ total service cost}$$

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$$\$16,500 + \$1,375 + \$2,750 = \$20,625$$

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### Opportunity #4

$120 \text{ units per hour} \times \$15 \text{ cost per unit} \times 8 \text{ hours} \times 20 \text{ days} = \$288,000$

$$[\$22 \times (1.0765) \times 8 \text{ hours} \times 20 \text{ days}] + \$565 \text{ benefits} = \$4,354.28$$

$$\$288,000 \text{ material cost} + \$4,354.28 \text{ labor cost} + \$1,000 \text{ maintenance} = \$293,354.28$$

### Opportunity #5

$$\$2,200 \text{ rent} \times 12 \text{ months} = \$26,400$$

$$\$2,600 \text{ accounting cost} \times 12 \text{ months} = \$31,200$$

$$\$1,100 \text{ insurance} \times 12 \text{ months} = \$13,200$$

$$\$550 \text{ utilities} \times 12 \text{ months} = \$6,600$$

$$\$6,500 \text{ benefits} + (\$89,000 \times 1.0765) = \$102,308.50$$

$$\$26,400 + \$31,200 + \$13,200 + \$6,600 + \$102,308.50 = \$179,708.50$$

### Opportunity #6

\$125 profit per unit X 1,000 units = **\$125,000 is not enough to cover the fixed cost of \$179,708.50 in question 5**

**Opportunity #7**

V = \$50

F = \$100,000

P = \$65

Profit = PQ – VQ – F = 65(2000) – 50(2000) - \$100,000 = **-\$70,000 loss**

Profit/investment = -\$70,000/\$2,500,000 = **-2.8% So no, it does not achieve a 22% return.**

**Opportunity #8**

\$150,000/6,500 units = **\$23.08 per unit**

**CHAPTER 15**

**Opportunity #1**

Value = \$100,000/.15 = **\$666,667. Yes, definitely pay \$50,000 for this firm.**

**Opportunity #2**

\$100,000/.50 = **\$200,000. Value falls \$466,667 but decision does not change to buy if the price is \$50,000.**

**Opportunity #3**

EBIT \$105,000

Personal \$ 15,000

Deprec. \$ 2,000

Salary adj. \$125,000

**EBITDA \$247,000**

Equipment - \$5,000

**Cash flow \$242,000**

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#### Opportunity #4

0	CF <sub>0</sub>
100000	CF <sub>1</sub>
90000	CF <sub>2</sub>
110000	CF <sub>3</sub>
120000	CF <sub>4</sub>
541667	CF <sub>5</sub> where $125000 + (125000/.30) = 541667$
30	i

NPV = **\$368,147.80**

#### Opportunity #5

\$368,747.80 total value - \$65,000 debt = **\$303,147.80 Proceeds**

#### Opportunity #6

\$368,747.80 value - \$10,000 basis = \$358,747.80 "profit"

\$358,747.80 X 40% = \$143,499.12 Tax

\$359,747.80 - \$65,000 debt - \$143,499.12 Tax = **\$160,248.68 net proceeds**

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#### Opportunity #7

a)  $\$170,000/.20 = \mathbf{\$850,000}$

b) 0	CF <sub>0</sub>
120000	CF <sub>1</sub>
140000	CF <sub>2</sub>
150000	CF <sub>3</sub>
160000	CF <sub>4</sub>
170000	CF <sub>5</sub>
20	i
NPV	<b>\$429,507.46</b>

c) 0	CF <sub>0</sub>
120000	CF <sub>1</sub>
140000	CF <sub>2</sub>
150000	CF <sub>3</sub>

160000 CF4  
1020000 CF5 where  $170000 + 850000 = 1020000$   
20 i  
NPV \$771,103.40

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### Opportunity #8

\$220,000 EBITDA X 2.1 Multiplier = **\$462,000**

### Opportunity #9

\$1,500,000 X (1- .25) = **\$1,125,000**

### Opportunity #10

$(\$1,600,000 \text{ DCF} + \$1,550,000 \text{ Multiple Approach})/2 = \mathbf{\$1,575,000}$ . Ignore liquidation value since highest and best use is as a going concern.