Chapter 8: Financial Plan

Creating a Solid Financial Plan

Financial Planning

- Research:
  - Significant numbers of entrepreneurs run their companies without any kind of financial plan!
  - A significant positive relationship exists between formal planning in small companies and their financial performances

Basic Financial Reports

- **Balance Sheet** - estimates the firm’s worth on a given date; built on the accounting equation:
  \[ \text{Assets} = \text{Liabilities} + \text{Owner's Equity} \]
- **Income Statement** - compares the firm’s expenses against its revenue over a period of time to show its net income (or loss):
  \[ \text{Net Income} = \text{Sales Revenue} - \text{Expenses} \]
- **Statement of Cash Flows** - shows the change in the firm’s working capital over a period of time by listing the sources of funds and the uses of these funds
Twelve Key Ratios

Liquidity Ratios - Tell whether or not a small business will be able to meet its maturing obligations as they come due

1. Current Ratio - Measures solvency by showing a firm's ability to pay current liabilities out of current assets

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{ Current Liabilities}} = \frac{$686,985}{$367,850} = 1.87:1
\]

2. Quick Ratio - Shows the extent to which a firm's most liquid assets cover its current liabilities

\[
\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}} = \frac{$231,530}{$367,850} = .63:1
\]
Twelve Key Ratios

- **Leverage Ratios** - Measure the financing provided by a firm's owners against that supplied by its creditors; a gauge of the depth of a company's debt.
- Careful!! Debt is a powerful tool, but you must control it.

**3. Debt Ratio** - Measures the percentage of total assets financed by creditors rather than owners.

\[
\text{Debt Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}} = \frac{\$580,000}{\$847,655} = .68:1
\]
Twelve Key Ratios

Leverage Ratios - Measure the financing provided by a firm's owners against that supplied by its creditors; a gauge of the depth of a company's debt

4. Debt to Net Worth Ratio - Compares what a business "owes" to "what it is worth"

\[
\text{Debt to Net} = \frac{\text{Total Debt}}{\text{Tangible Net Worth}} = \frac{\$580,000}{\$264,155} = 2.20:1
\]

Debt to Net Worth Ratio = Debt to Tangible Net Worth = $580,000 / $264,155 = 2.20:1

Twelve Key Ratios

Leverage Ratios - Measure the financing provided by a firm's owners against that supplied by its creditors; a gauge of the depth of a company's debt

5. Times Interest Earned - Measures a firm's ability to make the interest payments on its debt

\[
\text{Times Interest} = \frac{\text{EBIT}^*}{\text{Total Interest Expense}} = \frac{\$100,479}{\$39,850} = 2.52:1
\]

Times Interest Earned = EBIT / Total Interest Expense = $100,479 / $39,850 = 2.52:1

*Earnings Before Interest and Taxes

Twelve Key Ratios

Operating Ratios - Evaluate a firm's overall performance and show how effectively it is putting its resources to work

6. Average Inventory Turnover Ratio - Tells the average number of times a firm's inventory is "turned over" or sold out during the accounting period

\[
\text{Average Inventory} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}^*} = \frac{\$1,290,117}{\$650,000} = 2.05 \text{ times a year}
\]

Average Inventory Turnover Ratio = Cost of Goods Sold / Average Inventory = $1,290,117 / $650,000 = 2.05

*Average Inventory = (Beginning Inventory + Ending Inventory) / 2

Days' Inventory (or average age of inventory) = 365 / 2.05 = 178 days
Chapter 8: Financial Plan

Twelve Key Ratios

Operating Ratios - Evaluate a firm's overall performance and show how effectively it is putting its resources to work.

7. Average Collection Period Ratio - Tells the average number of days required to collect accounts receivable.

Two Steps:

\[
\text{Receivables Turnover = } \frac{\text{Credit Sales}}{\text{Accounts Receivable}} = \frac{\$1,309,589}{\$179,225} = 7.31 \text{ times a year}
\]

\[
\text{Average Collection Period Ratio} = \frac{\text{Days in Accounting Period}}{\text{Receivables Turnover Ratio}} = \frac{365}{7.31} = 50.0 \text{ days}
\]

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Lowering Your Average Collection Period Can Save You $$

Improving your company's average collection period ratio translates into dollar savings:

\[
\text{Savings} = \text{Credit Sales} \times \text{Annual Interest Rate} \times \frac{\# \text{ of days avg. collection pd. Lowered}}{365}
\]

Example:

\[
\text{Savings} = \$1,309,589 \times 10.25\% \times \frac{6 \text{ days}}{365} = \$2,207
\]

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Twelve Key Ratios

Operating Ratios - Evaluate a firm's overall performance and show how effectively it is putting its resources to work.

8. Average Payable Period Ratio - Tells the average number of days required to pay accounts payable.

Two Steps:

\[
\text{Payables Turnover Ratio} = \frac{\text{Purchases}}{\text{Accounts Payable}} = \frac{\$4939,627}{\$152,580} = 6.16 \text{ times a year}
\]

\[
\text{Average Payable Period Ratio} = \frac{\text{Days in Accounting Period}}{\text{Payables Turnover Ratio}} = \frac{365}{6.16} = 59.3 \text{ days}
\]

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Chapter 8: Financial Plan

**Twelve Key Ratios**

**Operating Ratios** - Evaluate a firm's overall performance and show how effectively it is putting its resources to work

9. **Net Sales to Total Assets Ratio** - Measures a firm's ability to generate sales given its asset base

\[
\begin{align*}
\text{Net Sales to Total Assets} & = \frac{\text{Net Sales}}{\text{Total Assets}} \\
& = \frac{1,870,841}{847,655} \\
& = 2.21:1
\end{align*}
\]

**Profitability Ratios** - Measure how efficiently a firm is operating; offer information about a firm's "bottom line"

10. **Net Profit on Sales Ratio** - Measures a firm's profit per dollar of sales revenue

\[
\begin{align*}
\text{Net Profit on Sales} & = \frac{\text{Net Income}}{\text{Net Sales}} \\
& = \frac{60,629}{1,870,841} \\
& = 3.24\%
\end{align*}
\]

11. **Net Profit to Assets (Return on Assets) Ratio** - tells how much profit a company generates for each dollar of assets that it owns

\[
\begin{align*}
\text{Net Profit to Assets} & = \frac{\text{Net Income}}{\text{Total Assets}} \\
& = \frac{60,629}{847,655} \\
& = 7.15\%
\end{align*}
\]
**Twelve Key Ratios**

**Profitability Ratios** - Measure how efficiently a firm is operating; offer information about a firm’s “bottom line”

12. Net Profit to Equity Ratio - Measures the owner’s rate of return on the investment in the business

\[
\text{Net Profit to Equity} = \frac{\text{Net Income}}{\text{Owner's Equity*}} = \frac{\$60,629}{\$267,655} = 22.65\% \\
* Also called net worth
\]

**Interpreting Ratios**

**Sam's Appliance Shop**

<table>
<thead>
<tr>
<th>Current ratio = 1.87:1</th>
</tr>
</thead>
</table>

**Industry Median**

<table>
<thead>
<tr>
<th>Current ratio = 1.50:1</th>
</tr>
</thead>
</table>

Although Sam’s falls short of the rule of thumb of 2:1, its current ratio is above the industry median by a significant amount. Sam’s should have no problem meeting short-term debts as they come due.

**Interpreting Ratios**

**Sam's Appliance Shop**

<table>
<thead>
<tr>
<th>Quick ratio = 0.63:1</th>
</tr>
</thead>
</table>

**Industry Median**

<table>
<thead>
<tr>
<th>Quick ratio = 0.50:1</th>
</tr>
</thead>
</table>

Again, Sam is below the rule of thumb of 1:1, but the company passes this test of liquidity when measured against industry standards. Sam relies on selling inventory to satisfy short-term debt (as do most appliance shops). If sales slump, the result could be liquidity problems for Sam’s.
### Interpreting Ratios

<table>
<thead>
<tr>
<th>Sam's Appliance Shop</th>
<th>Industry Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt ratio = 0.68:1</td>
<td>Debt ratio = 0.64:1</td>
</tr>
</tbody>
</table>

Creditors provide 68% of Sam’s total assets, very close to the industry median of 64%. Although the company does not appear to be overburdened with debt, Sam’s might have difficulty borrowing, especially from conservative lenders.

<table>
<thead>
<tr>
<th>Sam's Appliance Shop</th>
<th>Industry Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt to net worth ratio = 2.20:1</td>
<td>Debt to net worth ratio = 1.90:1</td>
</tr>
</tbody>
</table>

Sam’s owes $2.20 to creditors for every $1.00 the owner has invested in the business (compared to $1.90 to every $1.00 in equity for the typical business. Many lenders will see Sam’s as “borrowed up,” having reached its borrowing capacity. Creditor’s claims are more than twice those of the owners.

<table>
<thead>
<tr>
<th>Sam's Appliance Shop</th>
<th>Industry Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Times interest earned ratio = 2.52:1</td>
<td>Times interest earned ratio = 2.0:1</td>
</tr>
</tbody>
</table>

Sam’s earnings are high enough to cover the interest payments on its debt by a factor of 2.52:1, slightly better than the typical firm in the industry. Sam’s has a cushion (although a small one) in meeting its interest payments.
Chapter 8: Financial Plan

Interpreting Ratios

Sam’s Appliance Shop
Average inventory turnover ratio = 2.05 times per year

Industry Median
Average inventory turnover ratio = 4.0 times per year

Inventory is moving through Sam’s at a very slow pace. What could be causing such a low turnover in the business?

Interpreting Ratios

Sam’s Appliance Shop
Average collection period ratio = 50.0 days

Industry Median
Average collection period ratio = 19.3 days

Sam’s collects the average account receivable after 50 days compared to the industry median of 19 days - more than 2.5 times longer. What is a more meaningful comparison for this ratio?

Interpreting Ratios

Sam’s Appliance Shop
Average payable period ratio = 59.3 days

Industry Median
Average payable period ratio = 43 days

Sam’s payables are nearly 40 percent slower than those of the typical firm in the industry. Stretching payables too far could seriously damage the company’s credit rating. What are the possible causes of this discrepancy?
### Interpreting Ratios

**Sam's Appliance Shop**  
Net sales to total assets ratio = 2.21:1

**Industry Median**  
Net Sales to total assets ratio = 2.7:1

Sam's Appliance Shop is not generating enough sales, given the size of its asset base. What could cause this?

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### Interpreting Ratios

**Sam's Appliance Shop**  
Net profit on sales ratio = 3.24%

**Industry Median**  
Net profit on sale ratio = 7.6%

After deducting all expenses, Sam's has just 3.24 cents of every sales dollar left as profit - less than half the industry average. Sam may discover that some of his operating expenses are out of balance.

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### Interpreting Ratios

**Sam's Appliance Shop**  
Net profit to assets ratio = 7.15%

**Industry Median**  
Net Sales to working capital ratio = 5.5%

Sam's generates a return of 7.15% for every $1 in assets, which is 30% above the industry average. Given his asset base, Sam is squeezing an above-average return out of his company. Is this likely to be the result of exceptional profitability, or is there another explanation?
Interpreting Ratios

Sam's Appliance Shop
Net profit on equity ratio = 22.65%

Industry Median
Net profit on equity ratio = 12.6%

Sam's return on his investment in the business is an impressive 22.65%, compared to an industry median of just 12.6%. Is this the result of high profitability or is there another explanation?

Breakeven Analysis

- The breakeven point is the level of operation at which a business neither earns a profit nor incurs a loss.
- It is a useful planning tool because it shows entrepreneurs minimum level of activity required to stay in business.
- With one change in the breakeven calculation, an entrepreneur can also determine the sales volume required to reach a particular profit target.

Calculating the Breakeven Point

Step 1. Determine the expenses the business can expect to incur.
Step 2. Categorize the expenses in step 1 into fixed expenses and variable expenses.
Step 3. Calculate the ratio of variable expenses to net sales. Then compute the contribution margin:

\[ \text{Contribution Margin} = 1 - \frac{\text{Variable Expenses}}{\text{Net Sales Estimate}} \]

Step 4. Compute the breakeven point:

\[ \text{Breakeven Point} = \frac{\text{Total Fixed Costs}}{\text{Contribution Margin}} \]
Calculating the Breakeven Point: The Magic Shop

Step 1. Net Sales estimate is $950,000 with Cost of Goods Sold of $646,000 and total expenses of $236,500

Step 2. Variable Expenses of $705,125; Fixed Expenses of $177,375

Step 3. Contribution margin:
Contribution Margin = \frac{1}{950,000} - \frac{705,125}{950,000} = .26

Step 4. Breakeven point:
\text{Breakeven Point} = \frac{177,375}{.26} = $682,212

Breakeven Chart

Breakeven Point
Sales = $682,212

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