**Case Solutions**

***Fundamentals of Corporate Finance***

**Ross, Westerfield, and Jordan**

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***CHAPTER 1***

**THE McGEE CAKE COMPANY**

**1.** The advantages to an LLC are: (*a*) Reduction of personal liability. A sole proprietor has unlimited liability, which can include the potential loss of all personal assets. (*b*) Taxes. Forming an LLC may mean that more expenses can be considered business expenses and be deducted from the company’s income. (*c*) Improved credibility. The business may have increased credibility in the business world compared to a sole proprietorship. (*d*) Ability to attract investment. Corporations, even LLCs, can raise capital through the sale of equity. (*e*) Continuous life. Sole proprietorships have a limited life, while corporations have a potentially perpetual life. (*f*) Transfer of ownership. It is easier to transfer ownership in a corporation through the sale of stock.

The biggest disadvantage is the potential cost, although the cost of forming an LLC can be relatively small. There are also other potential costs, including more expansive record-keeping.

**2.** Forming a corporation has the same advantages as forming an LLC, but the costs are likely to be higher.

**3.** As a small company, changing to a LLC is probably the most advantageous decision at the current time. If the company grows, and Doc and Lyn are willing to sell more equity ownership, the company can reorganize as a corporation at a later date. Additionally, forming an LLC is likely to be less expensive than forming a corporation.

***CHAPTER 2***

**CASH FLOWS AND FINANCIAL STATEMENTS AT SUNSET BOARDS**

Below are the financial statements that you are asked to prepare.

**1.** The income statement for each year will look like this:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | *Income Statement* | | | |
|  |  | *2017* |  | *2018* |
|  | Sales | $501,441 |  | $611,224 |
|  | Cost of goods sold | 255,605 |  | 322,742 |
|  | Selling and administrative | 50,268 |  | 65,610 |
|  | Depreciation | 72,158 |  | 81,559 |
|  | EBIT | $123,410 |  | $141,313 |
|  | Interest | 15,687 |  | 17,980 |
|  | EBT | $107,723 |  | $123,333 |
|  | Taxes | 22,622 |  | 25,900 |
|  | Net income | $85,101 |  | $97,433 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Dividends | $34,040 |  | $38,973 |
|  | Addition to retained earnings | $51,061 |  | $58,460 |

**2.** The balance sheet for each year will be:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | *Balance Sheet as of Dec. 31, 2017* | | | | | |
|  | Cash | $36,884 |  |  | Accounts payable | $26,186 |
|  | Accounts receivable | 26,136 |  |  | Notes payable | 29,712 |
|  | Inventory | 50,318 |  |  | Current liabilities | $55,898 |
|  | Current assets | $113,338 |  |  |  |  |
|  |  |  |  |  | Long-term debt | $160,689 |
|  | Net fixed assets | $318,345 |  |  | Owners' equity | $215,096 |
|  | Total assets | $431,683 |  |  | Total liab. and equity | $431,683 |

In the first year, equity is not given. Therefore, we must calculate equity as a plug variable. Since total liabilities and equity is equal to total assets, equity can be calculated as:

Equity = $431,683 – 55,898 – 160,689

Equity = $215,096

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | *Balance Sheet as of Dec. 31, 2018* | | | | | |
|  | Cash | $55,725 |  |  | Accounts payable | $44,318 |
|  | Accounts receivable | 33,901 |  |  | Notes payable | 32,441 |
|  | Inventory | 67,674 |  |  | Current liabilities | $76,759 |
|  | Current assets | $157,300 |  |  |  |  |
|  |  |  |  |  | Long-term debt | $175,340 |
|  | Net fixed assets | $387,855 |  |  | Owners' equity | $293,056 |
|  | Total assets | $545,155 |  |  | Total liab. and equity | $545,155 |

The owner’s equity for 2018 is the beginning of year owners’ equity, plus the addition to retained earnings, plus the new equity, so:

Equity = $215,096 + 58,460 + 19,500

Equity = $293,056

**3.** Using the OCF equation:

OCF = EBIT + Depreciation – Taxes

The OCF for each year is:

OCF2017 = $123,410 + 72,158 – 22,622

OCF2017 = $172,946

OCF2018 = $141,313 + 81,559 – 25,900

OCF2018 = $196,972

**4.** To calculate the cash flow from assets, we need to find the capital spending and change in net working capital. The capital spending for the year was:

|  |  |  |
| --- | --- | --- |
|  | *Capital spending* |  |
|  | Ending net fixed assets | $387,855 |
|  | – Beginning net fixed assets | 318,345 |
|  | + Depreciation | 81,559 |
|  | Net capital spending | $151,069 |

And the change in net working capital was:

|  |  |  |
| --- | --- | --- |
|  | *Change in net working capital* | |
|  | Ending NWC | $80,541 |
|  | – Beginning NWC | 57,440 |
|  | Change in NWC | $23,101 |

So, the cash flow from assets was:

|  |  |  |
| --- | --- | --- |
|  | *Cash flow from assets* |  |
|  | Operating cash flow | $196,972 |
|  | – Net capital spending | 151,069 |
|  | – Change in NWC | 23,101 |
|  | Cash flow from assets | $22,802 |

**5.** The cash flow to creditors was:

|  |  |  |
| --- | --- | --- |
|  | *Cash flow to creditors* |  |
|  | Interest paid | $17,980 |
|  | – Net new borrowing | 14,651 |
|  | Cash flow to creditors | $3,329 |

**6.** The cash flow to stockholders was:

|  |  |  |
| --- | --- | --- |
|  | *Cash flow to stockholders* |  |
|  | Dividends paid | $38,973 |
|  | – Net new equity raised | 19,500 |
|  | Cash flow to stockholders | $19,473 |

*Answers to questions*

**1.** The firm had positive earnings in an accounting sense (NI > 0) and had positive cash flow from operations. The firm invested $23,101 in new net working capital and $151,069 in new fixed assets. The firm gave $22,802 to its stakeholders. It paid $3,329 to bondholders and paid $19,473 to stockholders.

**2.** The expansion plans may be a little risky. The company does have a positive cash flow, but a large portion of the operating cash flow is already going to capital spending. The company has had to raise capital from creditors and stockholders for its current operations. So, the expansion plans may be too aggressive at this time. On the other hand, companies do need capital to grow. Before investing or loaning the company money, you would want to know where the current capital spending is going, and why the company is spending so much in this area already.

***CHAPTER 3***

**RATIO ANALYSIS AT S&S AIR**

**1.** The calculations for the ratios listed are:

Current ratio = $2,603,218/$3,507,909

Current ratio = .74 times

Quick ratio = ($2,603,218 – 1,235,161)/$3,507,909

Quick ratio = .39 times

Cash ratio = $524,963/$3,507,909

Cash ratio = .15 times

Total asset turnover = $46,298,115/$22,985,163

Total asset turnover = 2.01 times

Inventory turnover = $34,536,913/$1,235,161

Inventory turnover = 27.96 times

Receivables turnover = $46,298,115/$843,094

Receivables turnover = 54.91 times

Total debt ratio = ($22,985,163 – 13,177,254)/$22,985,163

Total debt ratio = .43 times

Debt-equity ratio = ($3,507,909 + 6,300,000)/$13,177,254

Debt-equity ratio = .74 times

Equity multiplier = $22,985,163/$13,177,254

Equity multiplier = 1.74 times

Times interest earned = $3,815,484/$725,098

Times interest earned = 5.26 times

Cash coverage = ($3,815,484 + 2,074,853)/$725,098

Cash coverage = 8.12 times

Profit margin = $2,317,789/$46,298,115

Profit margin = .0501, or 5.01%

Return on assets = $2,317,789/$22,985,163

Return on assets = .1008, or 10.08%

Return on equity = $2,317,789/$13,177,254

Return on equity = .1759, or 17.59%

**2.** Boeing is probably not a good aspirant company. Even though both companies manufacture airplanes, S&S Air manufactures small airplanes, while Boeing manufactures large, commercial aircraft. These are two different markets. Additionally, Boeing is heavily involved in the defense industry, as well as Boeing Capital, which finances airplanes.

Bombardier is a Canadian company that builds business jets, short-range [airliners](http://en.wikipedia.org/wiki/Airliner) and fire-fighting amphibious aircraft and also provides defense-related services. It is the third largest commercial aircraft manufacturer in the world. Embraer is a Brazilian manufacturer that manufactures commercial, military, and corporate airplanes. Additionally, the Brazilian government is a part owner of the company. Bombardier and Embraer are probably not good aspirant companies because of the diverse range of products and manufacture of larger aircraft.

Cirrus is the world's second largest manufacturer of single-engine, piston-powered aircraft. Its SR22 is the world's best-selling plane in its class. The company is noted for its innovative small aircraft and is a good aspirant company.

Cessna is a well-known manufacturer of small airplanes. The company produces business jets, freight- and passenger-hauling utility Caravans, personal and small-business single engine pistons. It may be a good aspirant company, however, its products could be considered too broad and diversified since S&S Air produces only small personal airplanes.

**3.** S&S is below the median industry ratios for the current and cash ratios. This implies the company has less liquidity than the industry in general. However, both ratios are above the lower quartile, so there are companies in the industry with lower liquidity ratios than S&S Air. The company may have more predictable cash flows, or more access to short-term borrowing. If you created an inventory to current liabilities ratio, S&S Air would have a ratio that is lower than the industry median. The current ratio is below the industry median, while the quick ratio is above the industry median. This implies that S&S Air has less inventory to current liabilities than the industry median. S&S Air has less inventory than the industry median, but more accounts receivable than the industry since the cash ratio is lower than the industry median.

The turnover ratios are all higher than the industry median; in fact, all three turnover ratios are above the upper quartile. This may mean that S&S Air is more efficient than the industry. The deposit on orders may be the reason that the receivables turnover is much larger than the upper quartile.

The financial leverage ratios are generally below the industry median, but above the lower quartile. S&S Air generally has less debt than comparable companies, but still within the normal range.

The profit margin is below the industry median, however, not dramatically lower. The ROE is higher than the industry median, due in large part to the company’s high total asset turnover.

Overall, S&S Air’s performance seems good, although the liquidity ratios indicate that a closer look may be needed in this area.

Below is a list of possible reasons it may be good or bad that each ratio is higher or lower than the industry. Note that the list is not exhaustive, but merely one possible explanation for each ratio.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Ratio** | **Good** | **Bad** |
|  | Current ratio | Better at managing current accounts. | May be having liquidity problems. |
|  | Quick ratio | Better at managing current accounts. | May be having liquidity problems. |
|  | Cash ratio | Better at managing current accounts. | May be having liquidity problems. |
|  | Total asset turnover | Better at utilizing assets. | Assets may be older and depreciated, requiring extensive investment soon. |
|  | Inventory turnover | Better at inventory management, possibly due to better procedures. | Could be experiencing inventory shortages. |
|  | Receivables turnover | Better at collecting receivables. | May have credit terms that are too strict. Decreasing receivables turnover may increase sales. |
|  | Total debt ratio | Less debt than industry median means the company is less likely to experience credit problems. | Increasing the amount of debt can increase shareholder returns. Especially notice that it will increase ROE. |
|  | Debt-equity ratio | Less debt than industry median means the company is less likely to experience credit problems. | Increasing the amount of debt can increase shareholder returns. Especially notice that it will increase ROE. |
|  | Equity multiplier | Less debt than industry median means the company is less likely to experience credit problems. | Increasing the amount of debt can increase shareholder returns. Especially notice that it will increase ROE. |
|  | TIE | Higher quality materials could be increasing costs. | The company may have more difficulty meeting interest payments in a downturn. |
|  | Cash coverage | Less debt than industry median means the company is less likely to experience credit problems. | Increasing the amount of debt can increase shareholder returns. Especially notice that it will increase ROE. |
|  | Profit margin | The PM is slightly below the industry median. It could be a result of higher quality materials or better manufacturing. | Company may be having trouble controlling costs. |
|  | ROA | Company may have newer assets than the industry. | Company may have newer assets than the industry. |
|  | ROE | Lower profit margin may be a result of higher quality. | Profit margin and EM are lower than industry, which results in the lower ROE. |