**Mini Case Solutions**

***CHAPTER 3***

**RATIOS ANALYSIS AT Tuxedo AIR**

1. The calculations for the ratios listed are:

Current ratio = $1,967,860 / $2,773,050

Current ratio = 0.71 times

Quick ratio = ($1,967,860 – 933,400) / $2,773,050

Quick ratio = 0.37 times

Cash ratio = $396,900 / $2,773,050

Cash ratio = 0.14 times

Total asset turnover = $36,599,300/ $17,379,480

Total asset turnover = 2.11 times

Inventory turnover = $26,669,496 / $933,400

Inventory turnover = 28.57 times

Receivables turnover = $36,599,300 / $637,560

Receivables turnover = 57.41 times

\* Assuming all sales are made on credit.

Total debt ratio = ($17,379,480 – 9,556,430) / $17,379,480

Total debt ratio = 0.45 times

Debt-equity ratio = ($2,773,050 + 5,050,000) / $9,556,430

Debt-equity ratio = 0.82 times

Equity multiplier = Debt-equity ratio + 1

Equity multiplier = 1.82 times

Times interest earned = $3,648,604 / $573,200

Times interest earned = 6.37 times

Cash coverage = ($3,648,604 + 1,640,200) / $573,200

Cash coverage = 9.23 times

Profit margin = $1,845,242 / $36,599,300

Profit margin = 5.04%

Return on assets = $1,845,242 / $17,379,480

Return on assets = 10.62%

Return on equity = $1,845,242 / $9,556,430

Return on equity = 19.31%

1. Bombardier is probably not a good aspirant company. Even though both companies manufacture airplanes, Tuxedo Air manufactures small airplanes, while Bombardier manufactures large, commercial aircraft. These are two different markets.

Bombardier is a Canadian company that builds business jets, short-range airliners and fire-fighting amphibious aircraft and also provides defense-related services. It is the third largest commercial aircraft manufacturer in the world.

Boeing is not a good example as they produce long-haul commercial aircrafts as well as major provides major defense related contracts.

XOJet is a commercial small jet passenger carrier so it would not be a feasible company to compare with as it is in a different industry.

Piper is a world-renowned manufacturer of single-engine, piston-powered aircraft. The company is noted for its innovative small aircraft and is a good aspirant company.

Aero Century is a leasing and financing company that uses a fleet of vehicles produced by other companies and arranges lease/financial agreements to customers. Consequently, it is in a different industry from Tuxedo.

1. Tuxedo is below the median industry ratios for the current, quick, 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 Tuxedo Air.

If you created an Inventory to Current liabilities ratio, Tuxedo Air would have a ratio that is lower than the industry median. The current ratio is well below the industry median, while the quick ratio is slightly below the industry median. This implies that Tuxedo Air has less inventory to current liabilities than the industry median. Tuxedo 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 Tuxedo Air is more efficient than the industry—i.e. the firm can produce more product with less input, sell inventory faster, and convert receivables to cash faster than other firms.

The financial leverage ratios are all below the industry median, but above the lower quartile. Tuxedo Air generally has less debt than comparable companies, but still within the normal range. Consequently, the firm may have more room to expand by taking on more debt.

The profit margin is slightly below the industry median. This lower profit margin may be the result of slightly higher COGS or other expenses. On the other hand, ROA and ROE are both higher than industry median. Consequently, Tuxedo Air uses its capital equipment and investment very efficiently.

Overall, Tuxedo 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.

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| **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 expenditures on brand building or market penetration | Company may be having trouble controlling costs. |
| ROA | Company may have more productive assets than the industry. | Company may use too little capital equipment in their manufacturing process |
| ROE | Higher profit margin may be a result of higher quality. | Profit margin and EM are lower than industry, which results in the lower ROE. |