FINANCIAL INTELLIGENCE FOR SUPPLY CHAIN MANAGERS

UNDERSTAND THE LINK BETWEEN OPERATIONS AND CORPORATE FINANCIAL PERFORMANCE

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Financial Intelligence for Supply Chain Managers

conduct analysis and due diligence through the use of financial and operating ratios and then benchmark the results. Benchmarking is (1) comparing a company against their competitors and (2) a company comparing its own performance over time.

Typically, analysis and due diligence identify how the organization or business unit has performed in the past. Although past performance is not necessarily an indication of future performance, it does provide meaningful information and guidance. Historical data provide information that helps companies decide where to focus their attention and resources to improve the business. More importantly, data can offer information about the organization's trajectory. If management and company performance have historically been mediocre, why would there be an expectation for it to improve? To obtain an accurate picture of management and organizational performance, it is important to view performance over time. One data point is not enough to provide an accurate account of organizational performance. Trend information guides decision making and reduces the chance that an organization will overreact to a positive or negative report.

Considering only a company's own performance is not enough. The industry landscape must also be taken into account by looking at a company's performance compared to the performance of its competitors, industry averages, and top-performing organizations. Unless a company compares itself to its competitors and industry averages, it will never know if it is an average company or worse. Average companies can expect average returns or worse, for its stockholders. Comparing a company to other firms provides at least three insights:

1. Reveals areas for improvement—a company that is lagging behind its competitors can recognize the need to improve.
2. Reveals public perception—comparison provides information about how others perceive the organization, as a formidable competitor, insignificant, or a target for acquisition.
3. Reveals ranking within the field—knowing how high or low performing a company is compared to others informs what actions are necessary to remain competitive.

Benchmarking is conducted with the use of ratios and other performance measures. Without understanding ratio and ratio analysis, benchmarking is a futile exercise.

Ratio Analysis

Comprehensive ratio analysis requires not only the knowledge of how to compute ratios but also what the ratios indicate and how the numbers can be manipulated by a variety of factors, all of which will be explained in this chapter. Computing the ratio is only the beginning of ratio analysis. The numbers offer a starting point to understand what is happening within the business and what information the ratios reveal about the organization. Closer examination of the data can explain more about the company's performance in a particular area. Reviewing the ratios also provides insight on how the numbers are being affected by the company's actions in addition to any industry phenomena that are influential.

Ratios contain two parts: a numerator and a denominator. This is no surprise to anyone, but what many fail to recognize is that a change in either component will affect the ratio. This is important for two reasons:

1. When analyzing a ratio, both parts need to be considered to make informed decisions.
2. When making decisions based on ratios, it is critical to understand the components that make up the ratio.
3. When making decisions based on ratios, it is critical to understand the factors that may have changed that caused a change in the ratio.

Improvements to a company's finances or operations based on a ratio can be accomplished in three ways:

1. Improving the numerator
2. Improving the denominator
3. Improving both at the same time

To highlight the importance of understanding the components of a ratio, consider a simple operation's ratio related to workplace safety. The ratio is injury rate, or how many injuries per month the company records. Last year, the company reported 100 injuries for October, this year the company reported 125 injuries for October. Looking at the numbers only, without considering any other factors may not provide an accurate picture. It is crucial to ask a number of questions before passing judgment on the injury rate. Has the company changed

how it records injuries? Have any barriers to reporting injuries been removed? Was there an increase or decrease the number of hours employees are working? If hours have been increased, could fatigue be a factor? Answers to these questions will guide future workplace safety decisions, impacting safety policies and how resources are allocated. As this example demonstrates, many factors need to be considered to fully understand why a ratio changed over time.

Caveats to Ratio Analysis

Before discussing the calculations of the forthcoming ratios, it is important to address a few caveats. First, when comparing firms, it is necessary that the firms be in the same industry. Even then, precautions should be taken. As seen in Table 4.1, industries take on certain characteristics related to the profit margins they earn, to the levels of assets they carry, and to their efficiency in using their assets. Because of these differences, it is impossible and meaningless to compare companies from different industries. For instance, service companies vary considerably from manufacturing companies; as such, it would not make sense to compare utility companies to retailers to airlines. The industries are simply too different in the way they operate and compete. Their mix of debt and equity, their cost structure, inventory levels, and pricing power vary greatly.

Second, companies need to be cautious when comparing themselves to who they think their competitors are, considering a number of variables. Would it make sense to compare Target Corporation to Nordstrom? These companies, while both retailers, cater to different consumer segments and use different strategies. Because of this, comparison is difficult and impractical. Even comparison between high and low margin retailers is not worthwhile because ratios such as inventory turnover are quite different. Despite the difference, each type or retailer is likely satisfied with its own ratio.

Further, it is imperative to understand that accountants have a significant level of discretion and make assumptions as they produce financial statements. Thus, making direct comparisons between similar companies from the same industry are difficult. Even knowing about the assumptions, comparing conglomerates is not easy. Two examples of how accounting latitude influences ratio comparison are as follows:

1. The depreciation schedule is used.
2. How the cost of inventory is determined.

Table 4.1 Select Performance Measures Across Industries

	Airlines	Oil and Gas Exploration	Personal Care Products Manufacturing	Restaurants	Retail	Semiconductor and Electronic Component Manufacturing	Transportation Services Sector
Gross margin	52.70%	68.90%	35.10%	66.70%	23.80%	39.60%	56.90%
Net income percent of revenues	0.70%	3.90%	3.20%	1.30%	0.70%	2.50%	1.40%
Accounts receivable percent of total assets	12.60%	9.60%	18.90%	5.10%	14.00%	25.10%	15.00%
Inventory percent of total assets	1.60%	1.20%	22.40%	2.40%	36.70%	15.80%	1.40%
Property, plant, and equipment percent of total assets	53.30%	13.10%	15.40%	52.50%	19.10%	11.70%	48.70%
Financial Ratios							
Quick ratio	1.18	1.13	0.9	1.03	0.8	1.34	1.44
Current ratio	1.68	1.46	1.93	1.52	2.06	2.04	1.84
Current liabilities to net worth	39.00%	44.90%	63.60%	30.70%	71.80%	65.60%	41.70%
Days accounts receivable	36	93	73	10	17	67	43
Inventory turnover	×37.58	×9.69	×2.75	×27.33	×6.31	×5.23	×38.18
Total assets to sales	80.30%	263.40%	109.60%	50.80%	33.20%	73.00%	78.50%
Working capital to sales	9.60%	26.20%	29.10%	3.90%	11.40%	24.40%	12.10%

(*Continued*)

Table 4.1 (*Continued*)

	Airlines	Oil and Gas Exploration	Personal Care Products Manufacturing	Restaurants	Retail	Semiconductor and Electronic Component Manufacturing	Transportation Services Sector
Accounts payable to sales	7.40%	22.10%	10.60%	2.50%	4.60%	10.40%	4.40%
Pretax return on sales	1.10%	6.30%	5.20%	2.20%	1.10%	4.10%	2.20%
Pretax return on assets	1.30%	2.40%	4.70%	4.30%	3.40%	5.60%	2.90%
Pretax return on net worth	3.00%	4.90%	10.50%	8.90%	7.50%	11.50%	6.50%
Interest coverage	×1.27	×1.60	×128.26	×2.39	×2.81	×5.16	×1.89
EBITDA to sales	4.90%	16.80%	8.70%	7.40%	2.50%	7.70%	11.40%
Capital expenditures to sales	3.10%	11.50%	5.90%	5.40%	1.30%	3.10%	7.80%
Company count	3,012	10,637	550	213,740	493,148	2896	159,794

Note: Data as of march 2014, x = times.

Two identical companies can have different financial performance ratios due to nothing more than the choice of depreciation and inventory accounting methods.

A fourth caveat is related to how ratios are computed. Some are computed using only the balance sheet or only the income statement, while others require the use of both: the balance sheet and income statement. When both the balance sheet and the income statement are used to calculate a ratio, it is important to be aware of the reporting period. It bears repeating that the balance sheet represents a point in time and the income statement represents a time period. By only taking a point in time for the balance sheet items, anything that occurred earlier in the quarter or year is neglected. Given this fact, using averages for balance sheet asset and liability items can offer greater clarity. Using the average smooth's highly seasonal numbers or accounting schemes may not represent the entire year. Computing averages can be done using the following representative equation for average total assets. Table 4.2 shows *PepsiCo's* ending total assets for years 2012 and 2013. The two values are used to compute average total assets.

Average total assets = (Beginning total assets + Ending total assets)/2

$$\$76{,}058 = (\$74{,}638 + \$77{,}478)/2$$

In this chapter, for the sake of simplicity, balance sheet accounts have not been averaged. In practice, though, averages should be used.

Finally, a point to clarify is that a ratio may have more than one name, but mean the same thing. It is common to hear the words earnings, income, and profit, which are all synonymous. It is important to understand what is being referred to exactly. To make matters worse, when profits are used, is the term referring to gross profit, operating profit, or net profit? In short, accurate ratio analysis requires clarity so that comparisons can be made. The items mentioned in this section should all be considered when analyzing ratios because they can create confusion.

Financial Ratios

Although the information in this chapter is highly technical, it lays the foundation for operations and supply chain managers to develop a greater understanding of how their role influences a company's finances. The financial ratios discussed next are the ratios that interest executives and investment community. These common ratios have long been used by financial experts and provide meaningful, useful,