

OFA Mission Statement

To support and promote floriculture professionals through lifelong learning, career enhancement, and public awareness.

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ofa Forum

Benchmarking Your Way to Success!

by Charles R. Hall

I have been writing for several months now regarding the recent economic downturn and its impact on greenhouse and nursery firms. Not only has the economy slowed to a crawl, our industry also suffered several shocks due to freeze and drought conditions last year. It would be an understatement to say that times are tight right now. In such economic conditions, it becomes even more imperative to measure, assess, and set into motion various contingency efforts to ensure financial solvency.

But how do you determine what these contingencies should be? The answer: By benchmarking your performance relative to your historical financial and operational performance and then comparing your firms' performance to that of other industry firms.

The bottom line is that you get what you inspect. Major score-keeping areas in a greenhouse business include:

- (1) **financial measures** – e.g. return on assets, sales volume, and gross profit; and
- (2) **operational measures** – e.g. production rates, quality, and safety measures. The key is to figure out which metrics (things to be measured) are important and use this information to educate employees about the correlation between these metrics and profit.

Once these key success factors are identified, there are two major types of benchmarking procedures that managers should be doing. First, **internal benchmarking** (benchmarking within a company)

compares your own firm's performance against a previous time period (e.g. previous quarter, this quarter last year, etc.). This is often referred to as time-series benchmarking. Second, **competitive benchmarking** (benchmarking performance or processes with those of competitors) compares your firm's performance against similarly-sized firms in the industry. This is often referred to as cross-sectional benchmarking because you are comparing your firm against a "cross-section" of the industry.

Unlike other manufacturing industries, there are not a lot of cross-sectional benchmark data available for green industry firms, and even fewer specifically pertaining to greenhouse firms. The best way to glean benchmarking information regarding greenhouse **operational measures** is by scanning trade journals, university research reports, attending educational conferences and trade shows, on-site visits to other greenhouse operations (via tours and personal visits), and talking with other greenhouse managers outside your production region (they are usually more apt to share information). Measuring firm-level productivity over time will point to corrective actions to address inefficiencies in production, marketing, and customer service practices.

Table 1 (page 3) offers some suggestions as to the metrics growers may consider in establishing a benchmarking system or adding to their existing system. While the table may seem daunting at first glance, I always advise growers to choose a few (one or two) benchmark metrics each year to incorporate into their system.

Remember: what gets measured gets managed! Concentrate on measuring the right things, then on measuring them efficiently. Focus only on the areas of greatest concern in your business and fix



Table 1. Potential metrics for financial and operational benchmarking.

Financial metrics	Operational metrics
Total annual greenhouse sales	Weeks operated per year (by location)
Total greenhouse debt	Full-time worker equivalents (labor hours/2080)
Sales per sq. ft. of bench space (by location)	Area per full-time worker equivalent (FTE)
Total sq.ft. weeks per year (# weeks x sq.ft.)	SFW per full-time worker equivalent (FTE)
Income statement line items as a % of sales	Gross margin full-time worker equivalent (FTE)
Net income per sq.ft.	Hired labor expenses as a % of sales
Net income per sq.ft. week (SFW)	Net income per full-time worker equivalent (FTE)
Gross margin (sales - cost of goods sold)	Machinery investment per sq.ft.
Net profit margin (net profit/net sales)	Average collection period for accounts payables
Total cost per sq.ft.	Inventory turnover (COGS/average inventory)
Total cost per sq.ft. week (SFW)	Inventory holding period (365/inventory turnover)
Overhead expenses as % of sales	Sales to fixed assets (net sales/fixed assets)
Overhead expenses per sq.ft. week (SFW)	Sales to working capital
Asset turnover (total sales/total assets)	Production rates (# units completed per task)
Return on assets (net profit/total assets)	Quality measures (size, flowering, etc.)
Financial leverage (total assets/net worth)	Safety measures (# days w/o lost-time injury)
Return on equity (net profit/net worth)	Customer turnover
Sales per full-time worker equivalent (FTE)	Average # of complaints per customer
Average sales and profit per customer	Returns and adjustments per customer

those areas. Measuring anything that does not directly affect profitability, performance, or safety only adds burden and takes away from those measures that are truly important.

Strategic Profit Model

Probably the most common (and obvious) financial goal of greenhouse businesses today is to make a profit. However, to simply refer to “profitability” in general is not enough. There are various measures of profitability, but the two most commonly referred to include return on assets (often called return on investment or ROI) and return on net worth. *Return on Assets* (ROA) looks at the economic viability of the firm whereas *Return on Net Worth* (ROE or Return on Owner Equity) examines the return being generated for the firm’s owners. Both have their own value in analyzing performance. It is important to understand how return on investment is calculated and how it can be improved. ROE is considered the most meaningful way to evaluate overall company profitability

These two primary profitability ratios are influenced by three other performance-related ratios: Profit Margin, Asset Turnover, and Financial Leverage. Each of these represents a different strategy or pathway to improve return on investment. These five ratios can be combined into what is commonly called the Strategic Profit Model (Figure 1), sometimes referred to as the

$$\begin{array}{l}
 \text{Profit margin} \times \text{Asset turnover} = \text{ROA (ROI)} \times \text{Leverage factor} = \text{ROE} \\
 \frac{\text{Net profit}}{\text{Net sales}} \times \frac{\text{Net sales}}{\text{Total assets}} = \frac{\text{Net profit}}{\text{Total assets}} \times \frac{\text{Total assets}}{\text{Net Worth}} = \frac{\text{Net profit}}{\text{Net worth}}
 \end{array}$$

Figure 1. Strategic Profit Model.

DuPont Model. It is simply a graphical representation of a comprehensive return on investment analysis.

Profit Margin = Net Profit Before Taxes ÷ Net Sales x 100.

The first and most important pathway to profitability is profit margin management. For example, a profit margin of 6.9 percent means that for every \$1.00 of sales the company was able to produce 6.9 cents in profit before taxes. Managing profit margin means focusing on sales productivity, gross margin management, and operating expense control.

Asset Turnover = Net Sales ÷ Total Assets. Asset turnover reflects the sales the grower produces per dollar invested in assets. For example, a ratio of 1.0 reflects that the grower is generating \$1.00 in sales for every \$1.00 in assets. If a grower’s

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assets, cash, accounts receivable, inventory, property, equipment, and all other assets can be used as efficiently as possible, then a maximum amount of sales can be generated from a given asset investment.

Return on Assets = Profit Before Taxes ÷ Total Assets x 100.

Return on assets (ROA) is the direct result of the first two pathways to profit – profit margin multiplied by asset turnover. This measure of performance is a good indicator of the grower’s ability to survive and prosper. As a rule of thumb, the pre-tax return on assets ratio should at least be equal to (and preferably exceed) the interest rate associated with the cost of capital.

Financial Leverage = Total Assets ÷ Net Worth. Financial leverage measures the total dollars of assets per dollar of net worth. This benchmark ratio measures the extent to which the grower uses outside (non-owner) financing. The higher the ratio, the more the grower relies on outside financing. For example, a ratio of 1.5 times suggests that for every \$1.00 in net worth, the grower had \$1.50 in total assets. If for every \$1.50 in total assets the owners put up \$1.00, then outsiders put up the remaining \$0.50.

Return on Net Worth = Net Profit (before taxes) ÷ Net Worth

x 100. The end result of the strategic profit model is return on net worth (equity). It is seldom possible to generate an adequate rate of return on net worth by emphasizing just one of the previous profitability pathways. Each pathway should be examined carefully for improvement opportunities and then trade-offs made in order to increase overall profitability. An improvement plan should not be based upon any single measure of performance, but be developed with the complete picture in mind.

Greenhouse businesses must earn an adequate return on investment to satisfy the owners’ needs. Table 2 provides some general benchmark guidelines for return on assets and for return on net worth.

Financial Ratio Benchmarks

Growers, suppliers, bankers, and outside creditors have a wide range of other financial ratio benchmarks at their disposal to measure the overall financial integrity of the greenhouse business. Some of the more common benchmark measure for you to consider include the following:

Current Ratio = Current Assets ÷ Current Liabilities. The current ratio measures the margin of safety that management maintains in order to allow for the inevitable unevenness in the flow of funds through the current assets and current liability accounts. A company needs a supply of current funds to be assured of being able to pay its bills when they come due. As a general rule, the current ratio should be 2.0 or higher.

Quick Ratio = (Cash + Accounts Receivable) ÷ Current Liabilities.

Quick assets include cash, marketable securities, and current accounts receivable. Presumably, these items can be converted into cash quickly at approximately their stated amounts, unlike inventory which is the principal current asset excluded from this calculation. The quick ratio is, therefore, a measure of the extent to which liquid resources are readily available to meet current obligations. A guideline for the quick ratio is 1.0.

Debt to Equity = Total Liabilities ÷ Net Worth. The greater the proportion of its financing that is obtained from owners, the less worry the company has in meeting its fixed obligations. At the same time excessive reliance on owner financing slows the rate at which the grower can grow. The debt to equity ratio shows the balance that management has struck between debt and owners’ equity. A mix of \$1.00 debt to \$1.00 equity is usually considered prudent.

EBIT to Total Assets = EBIT ÷ Total Assets x 100. Earnings before interest and taxes (EBIT) to total assets is a return on investment ratio that provides a profit analysis based on earnings, before interest and income taxes. This ratio is best compared with a company’s annual interest rate on borrowed funds. If a grower’s EBIT to total assets ratio is higher than their cost of capital, there is a favorable spread between the two. A spread of at least 2.0 points is desirable.

Times Interest Earned = (Profit Before Taxes + Interest) ÷ Interest. The times interest earned ratio measures the number of times profit before interest and taxes will cover total interest payments on debt. The result indicates the level to which income can decline without impairing the company’s ability to meet interest payments on its liabilities. If the ratio falls below 1.0, the grower is not generating enough earnings to cover the interest due on loans. A reasonable target is 6 to 8 times.

Table 2. General benchmark guidelines for return on assets and for return on net worth.

Primary financial objective	Return on assets	Return on equity	Effect on company performance
Minimum	4-5%	8-10%	Minimum long-term return necessary to ensure survival
Target	8-10%	15-20%	Satisfies owners minimum needs, but doesn't provide for growth or offset inflation
Top performance	15-20%	30-40%	Would be representative of the most profitable firms in the industry

Cash to Current Liabilities = Cash ÷ Current Liabilities x 100.

This is the most stringent test of the ability of the grower to meet its short-term obligations with existing cash balances. To be truly conservative with cash, this ratio should be in the 10 to 20 percent range.

Sales to Working Capital = Net Sales ÷ (Current Assets - Current Liabilities).

This ratio measures the ability of the grower to generate sales without tying up high levels of investment in working capital. A ratio of 1.5, for example, means the grower can generate \$1.50 in sales for every \$1.00 invested in working capital. This ratio can be impacted by changes in any of the three working capital items: improving inventory turnover, reducing accounts receivable collections, or obtaining more favorable accounts payable payment terms.

Asset Productivity Ratios

Given the significance of both accounts receivable and inventory in terms of managing cash flows, it is important to measure their productivity. For both of these asset categories the objective is not to minimize their value. Rather, the objective is to utilize both for maximum profitability.

Average Collection Period = Accounts Receivables ÷

(Credit sales ÷ 365 days). The average collection period can be evaluated against the credit terms of the company. As a rule, the collection period should not exceed 1.3 times the regular payment period. That is, if your company's typical credit terms call for payment in 30 days, then the collection period should be 39 days or less.

Inventory Turnover = Cost of Goods Sold ÷ Average Inventory.

Inventory turnover is an indication of the velocity with which merchandise dollars move through the business. If the turnover figure were 2.7, this would mean that the firm sells out the equivalent of its inventory value 2.7 times per year.

Inventory Holding Period = 365 Days ÷ Inventory Turnover.

The inventory holding period reflects how many days of inventory are on hand. That is, it shows how long it should take to sell off existing inventory. Business managers and owners must be concerned with a holding period that is longer than necessary due to the high costs of capital tied up in excess inventory. On the other hand, reducing inventory levels too much could result in lost sales if certain products are not available when the customer wants them. The cost of carrying inventory has to be balanced against the profit opportunities lost by not having product in stock ready for sale.

Sales to Fixed Assets = Net Sales ÷ Net Fixed Assets.

This industry requires a significant investment in fixed assets, particularly equipment. To reach a sufficient level of profitability, these assets must be utilized as efficiently as possible. This ratio provides a basis for comparing fixed asset utilization across different types of operations.

Summary

Let me conclude by reinforcing my rule of thumb for benchmarking: If you are not going to take action based on the results of your analysis, then don't bother measuring it. In other words, don't measure what you aren't willing to change. But hopefully, I have challenged you to at least consider additional metrics in which to measure in order to make more informed managerial decisions during these tight economic times.

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