

By Charlie Hall and Paul Thomas

Benchmarking your way to success: Part 2

Companies can use benchmarking to measure various aspects of their business, but they have to be willing to make changes based on the analysis results.

In the first article on benchmarking (see January 2010 *GMP*, Page 16), we made reference to a 2003 PricewaterhouseCoopers Trendsetter Barometer survey that found companies that benchmark achieve 69 percent faster growth and 45 percent greater productivity than those who don't. That first article reinforced the need for benchmarking and the types of benchmarks greenhouse businesses should consider tracking.

Major score-keeping areas in a greenhouse business include both **financial measures** (e.g. return on assets, sales volume and gross profit) and **operational measures** (e.g. production rates, quality and safety measures). This article provides more details about how these types of benchmarks are calculated and evaluated.

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 ROI) and return on net worth. Return on assets (ROA) looks at the economic viability of a company whereas return on net worth (ROE or return on owner equity) examines the return being generated for the company'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. Return on equity is considered the most meaningful way to evaluate overall company profitability.

These two primary profitability ratios are driven 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 (sometimes referred to as the DuPont Model). It is simply a graphical representation of a comprehensive return on investment analysis. The strategic profit model is shown in the box below.

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 of sales the company is 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 a grower produces per dollar invested in assets. For example, a ratio of 1.0 reflects that a grower is generating \$1 in sales for every \$1 in assets. If a grower's 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 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 a grower's ability to survive

STRATEGIC PROFIT MODEL

$$\begin{array}{ccccccc}
 \text{Profit Margin} & \times & \text{Asset Turnover} & = & \text{ROA (ROI)} & \times & \text{Leverage Factor} = \text{ROE} \\
 \frac{\text{Net Profit}}{\text{Net Sales}} & \times & \frac{\text{Net Sales}}{\text{Total Assets}} & = & \frac{\text{Net Profit}}{\text{Total Assets}} & \times & \frac{\text{Total Assets}}{\text{Net Worth}} = \frac{\text{Net Profit}}{\text{Net Worth}}
 \end{array}$$

and prosper. As a rule of thumb, the pre-tax return on assets ratio should at least equal (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 a 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 in net worth, a grower has \$1.50 in total assets. If for every \$1.50 in total assets the owners put up \$1, 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. Any plan for improvement 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. The table below 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 a greenhouse business. Some of the more common benchmark measures for you to consider include:

Current ratio = Current assets ÷ Current liabilities

The current ratio measures the margin of safety that management needs 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 a company has in meeting

its fixed obligations. At the same time, excessive reliance on owner financing slows the rate at which a greenhouse business can grow. The debt to equity ratio shows the balance that management has struck between debt and owners' equity. A mix of \$1 debt to \$1 equity is usually considered prudent.

EBIT to Total assets = Earnings before interest and taxes ÷ Total assets x 100

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 greenhouse business' EBIT to total assets ratio is higher than its 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 a company's ability to meet interest payments on its liabilities. If the ratio falls below 1.0, a company is not generating enough earnings to cover the interest due on loans. A reasonable target is six to eight times.

Cash to current liabilities = Cash ÷ Current liabilities x 100

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

Sales to working capital = Net sales ÷ (Current assets - Current liabilities)

This ratio measures the ability of a company to generate sales without tying up high levels of investment in working capital. A ratio of 1.5, for example,

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%	Usually 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.

means a business can generate \$1.50 in sales for every \$1 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 flow, 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 a company. As a rule, the collection period should not exceed 1.3 times the regular payment period. That is, if a company's typical credit terms call for payment in 30 days, then the average 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 a business. If the turnover figure were 2.75, this would mean that the company sells out the equivalent of its inventory value 2.75 times per year. Intuitively, the more frequent the inventory turnover, the better off a company will be.

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 customers want 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

The horticulture industry requires a significant investment in fixed assets, particularly various types of equipment. To reach a sufficient level of profitability, these fixed assets must be utilized as efficiently as possible. This ratio provides a basis for comparing fixed asset utiliza-

tion across different types of production operations.

Employee productivity ratios

Employees are the lifeblood of an organization. Without a properly motivated and compensated work force few growers can produce much more than basic levels of performance. Employee payroll costs make up the single largest expense category on the income statement.

In controlling employee payroll, the key to success is not the absolute level of compensation, but rather the productivity of employees. The key employee productivity ratio is sales per employee.

Sales per employee = Net sales ÷ Total full-time equivalent employees

This is simply the level of sales generated per full-time equivalent (FTE)

employee. The ratio provides a means to estimate how many additional employees will be required as a company expands its sales base.

Need to make changes?

Our rule of thumb for benchmarking is: If you are not going to take action based on the results of your analysis, then don't bother measuring it. Don't measure what you aren't willing to change. Hopefully, the discussions thus far have challenged you to at least consider additional metrics in order to make more informed managerial decisions. 

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An Internet-Based Benchmarking System

An internet-based financial benchmarking system (Horticulture Business Analysis System), was developed for the greenhouse and nursery industry through a partnership between the University of Florida and the Florida Nursery Growers and Landscape Association. The system, available at <https://hortbusiness.ifas.ufl.edu/analysis>, is free of charge to all greenhouse and nursery growers.



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