

# Making Profit 101

## Business Models and Profit Models

Making profit is no fluke. Keeping a business consistently on the profit side of the ledger is a demanding task. A well-thought-out business plan is essential. And developing a *business model* is particularly helpful. A business plan typically runs 20, 30, or more pages. A typical business model runs 20 or 30 words. It encapsulates the core strategy of the business plan in a short, crystal-clear statement. A business model has relatively few words but says a lot.

The business model provides a common touchstone for managers. If a tentative decision doesn't square with the business model, the manager would be veering off course. Moving ahead with the decision may be a good new direction to go. Perhaps not. In any case, the model serves as the strategic compass of the business. A business model is also very useful in communicating with employees, customers, creditors, lenders, and investors—to tell the story of the business in a few words.

In my business consulting experience and having served on several boards of directors, I've seen the critical importance of a well-crafted business model—whether a business is public or private, large or small, just starting up or well-established, a seller of products or

services, and whether struggling or coasting along. Most businesses I've worked with had a fairly good business model—not always written in stone, but nevertheless one that was clear in the minds of its top-level managers. Of course a business model may change over time, after deep soul searching regarding which new directions to take and which new strategies the business should embrace.

As useful as it is, a business model has one inherent danger. You can get caught up in the rhetoric of a business model; you can too easily accept the model as a self-fulfilling prophecy. A business model may promise more than it can deliver in actual bottom-line results. It may be no more than wishful thinking. Keep in mind that a business model is written to be a persuasive explanation of how the business makes profit. As the adage says, the proof is not in the pudding but in the eating. In more modern terms, can a business walk the talk of its business model?

A business model, in other words, can be a very convincing theory that looks good on paper. The reality check is whether a business can actually translate the words into profit. A business also needs a *profit model* to put its business model into action. A business model focuses on marketing strategies, competitive advantages, quality standards, and so on. Mainly words. A profit model focuses on sales prices, costs, expenses, margins, and total profit. Mainly numbers. A profit model focuses on the essential data that determine the amount of profit for a period. A business model is more left brain. A profit model is more right brain. However, a good profit model should be like the business model in one key respect—short and to the point, having no more elements than absolutely necessary.

As a business consultant I would challenge a company's managers as follows. I understand your business model and I like it. But let's crank the numbers through your profit model and test whether your data actually yield enough profit or not. Often they would reply: What's a profit model? They would argue that their business model was their profit model. I would argue that a business model is like a map that plots the general directions to a destination. You still have to quantify the number of miles, gas mileage, average speed, number of passengers, and so on. In short, you must put some numbers on the main factors that drive profit.

Of course profit is the main financial objective of a business—or, I should say profit is one of its primary financial objectives. A business also has to generate **cash flow**. A business has to meet its payroll, pay its debts on time, pay dividends to its stockholders (if they demand dividends), have ready cash to invest for growth, and so on.

A business should operate in the black (make profit) and keep its cash balance in the black (keep cash at adequate levels). A business has to stay out of the red on both counts.

This book explains both profit models and cash flow models for managing a business. This first chapter examines how a business makes profit by introducing and explaining the basic profit model that fits a very broad range of businesses. The second chapter examines **cash flow from profit**. In most situations one dollar of profit in a period does not yield exactly one dollar of cash flow over the same period. A dollar of profit generates either more than a dollar, or less than a dollar of cash flow. Business managers should be very clear in their minds about this divergence between profit and cash flow.

### Introducing the Profit Model

Figure 1.1 presents the basic profit model for a typical business. Note that it's *the* profit model instead of *a* profit model. The framework and factors of the profit model in Figure 1.1 apply to the large majority of businesses. In the example the business sells products. The values for the factors in the profit model can be easily adapted to fit a company that sells services rather than products. (Alternative business examples are discussed later.) The basic factors in the

**FIGURE 1.1** Profit Model for Period

Line Number	Profit Factors	Values
1.	Sales Price	\$100.00
2.	Less: Product Cost Expense	\$60.00
3.	Equals: Gross Margin	\$40.00
4.	Less: Unit-Driven Expenses	\$5.50
5.	Less: Revenue-Driven Expenses	7.50%
6.	Equals: Unit Margin	\$27.00
7.	Multiplied by: Sales Volume	100,000
8.	Equals: Contribution Margin	\$2,700,000
9.	Less: Fixed Operating Expenses	\$1,500,000
10.	Equals: Profit (before Other Expenses)	\$1,200,000

profit model are the same across a very broad cross section of businesses. In short the profit model is generic, but the dollar amounts and the other measures for each factor vary significantly across industry sectors, and the data even can be quite different from company to company within one industry.

For instance, in the example the company adds a \$40.00 mark-up to its \$60.00 product cost to set the \$100.00 sales price. So its **gross margin** (profit before other expenses) is 40 percent of sales price. In short, mark-up is gross profit. Many businesses need 50 percent or higher gross margin on sales to make an adequate profit (because their other expenses are high). In contrast, some businesses can make profit with a gross profit on sales of only 25 percent or less. As I write this, Apple Computer reported a 27 percent gross margin on sales, though I'm sure Apple would like to do better (and has done better in the past).

A profit model is like a Swiss army knife—an excellent tool for several different purposes. The profit model is very useful in developing a profit plan for the coming period, particularly for setting sales prices and expense targets. It's equally useful for analyzing actual results for the period just ended. In other words, the profit model is very helpful for analyzing how to reach profit goals for the coming period, and for comparing actual profit performance for the period against the goals for the period (or with the last period).

### ***Time Period and Domain of Profit Model***

By its very nature profit is the cumulative result over a period of time. One of the most important functions of business accounting is to measure profit performance and to prepare periodic financial statements that report the profit, cash flows, and financial condition of the business. Almost all businesses report quarterly financial statements to their outside shareowners and lenders. Measuring profit for a quarter-year is a rather short time period. Measuring profit for an entire year provides a much more reliable measure. One year is a natural time period for many businesses over which to measure profit performance. Thus, quarterly financial statements are treated as somewhat tentative until the annual financial statements are reported by a business. The timetable for financial reporting outside the business does not govern how often financial statements are prepared for the managers of a business, however.

Managers at all levels in a business organization receive internal financial reports that do not circulate outside the business. The scope of information in each manager's financial report encompasses his or her area of responsibility in the business organization. These in-

ternal financial reports contain a good deal of confidential information that must be shielded from the eyes of competitors. Internal financial reports to managers contain a lot of detail, mainly for control purposes. To control what's going on, managers have to keep their eyes on a lot of details, that's for sure. Furthermore, internal financial reports to many managers are needed weekly or monthly, so that things don't spin out of control before the manager is even aware of what's going wrong.

The profit model is designed not primarily for frequent control monitoring. The profit model is for decision-making analysis (and for review of actual profit performance). Managers need to keep a constant and close watch on many details to exercise control. In contrast, the profit model is extremely condensed. Also, control reports are needed frequently. The profit model is for a decision-based time period, which is usually longer than the relatively short time periods for which control reports are prepared. The right time period for the profit model depends mainly on how frequently managers set and reset *sales prices*. It's difficult to generalize about the time period of a profit model. Some companies publish list prices that they hold onto for as long as one year. Some companies bring out new models just once a year. Some companies set sales prices for part of a year, such as for the fall and spring seasons. Some retail businesses reset sales prices frequently (gas stations and grocery stores come to mind). Managers plan ahead for a certain time horizon, and the profit model should fit this time period.

A separate profit model is needed for each source of profit. The business needs to know each stream and creek that flows into the river of its sales and profit. Managers have to circumscribe and map out each **profit module** of the business. For instance, besides selling coffee by the cup a Starbucks store sells coffee beans, coffee machines, and many other items (including books and music). Managers need a separate profit model for each area of profit making. A business is a collection of many different sources of sales and profits—segments, territories, branches, product lines, stores, divisions, departments, and so on. Even smaller businesses usually consist of two or more disparate parts. Its managers should clearly identify each separate source of the business's sales and profit—called profit modules.

Identifying profit modules depends on the organizational structure of the business, how the company markets its goods and services, the geographical dispersion of the business, and several other factors. The bottom-line test is whether the profit module is focused enough for decision making—without a manager's having too many

separate profit modules to deal with. The can't see the forest for the trees adage comes to mind. Though I would say that managers as forest rangers have to sort between different kinds of trees and put the trees into meaningful groves and stands. General Motors would not lump together its Saturn model line with its Cadillac line. I'm sure that Ford separates its Explorer line of SUV vehicles separately from its light trucks.

The profit model in Figure 1.1 includes fixed operating expenses (see line 9), which are deducted from contribution margin (line 8) for the period. Many fixed expenses can be coupled with the sales activity included in the profit model. A fixed amount spent for advertising the products whose sales are included in the profit model is one example. The rent cost for a warehouse that stores only products included in the profit model is included as a fixed operating expense. The fixed salaries of employees who work only in sales and supporting activities included in the profit model are included in the fixed operating expenses. All fixed expenses directly related to the sales activity should be included in the profit model.

Businesses have general fixed overhead costs that are very remote to any particular source of sales and profit. Examples include the general legal costs of the business, the annual compensation of the president and chief executive officer of the business, institutional advertising that does not mention any particular product or service sold by the business, the costs of the human resources department of the business, and many more. These indirect fixed costs cannot be directly matched to a particular source of sales. They can be allocated to profit sources according to some method, but this issue is put off until later in the book. In summary, profit in the profit model (Figure 1.1, line 10) is before unallocated company-wide overhead expenses, and before interest and income tax expenses. Interest and income tax expenses come into play at the company-wide level, and depend on how the business is financed and its income tax situation.

### ***Running through the Profit Model Factors***

Before beginning the line-by-line explanations of each factor in the profit model presented in Figure 1.1, it should be emphasized that the profit model is for a group of products that constitute an identifiable source of sales and profit. These groupings are called profit modules. In a retail department store a profit module could be men's or women's shoes. For Dell, Gateway, and Apple a profit module would be for laptop computers. For Ford one

profit module may be for Explorers. The appropriate profit module depends on the judgment of managers and the nature of the business.

The point I wish to make here is that a profit module is for a mix of products and, therefore, the per unit values in the profit model (Figure 1.1) are averages for the period. The average sales price in the profit model depends on the sales mix, or proportions of products that constitute the profit module. The different products making up the profit module are sold at different sales prices. For example if only two products are included in the profit model and one-half are sold at \$110.00 and one-half are sold at \$90.00, then the average sales price is \$100.00. If the sales mix shifts to a greater proportion of higher-priced units, then the average sales price would be higher, of course. Likewise, the average product cost and the other average unit amounts in the profit model depend on the mix of products included in the profit module.

In the rest of this section I explain briefly each of the factors in the profit model. Please refer to the corresponding line in Figure 1.1 as each factor is explained.

### 1. Sales Price

This is the average sales price over the period, net of any customer discounts, rebates, and allowances. In other words, the sales price is the actual amount received by the business that can be used to cover expenses and provide profit. Discounts, rebates, and allowances are accounted for and reported to managers, but the profit model focuses on the net sales price.

### 2. Product Cost Expense

If the business manufactures the products it sells this is the production cost per unit; if the business is a retailer (or wholesaler), this is the purchase cost per unit. Product costs typically fluctuate during a period, so, the average product cost depends to some degree on which accounting method is being used. Chapter 13 explains the choice of product cost accounting methods.

### 3. Gross Margin

This is the profit per unit before any other expenses of making the sales are deducted; only product cost is deducted at this point. This preliminary, or first-line, measure of profit is also called **gross profit**. Gross means that many other expenses are not yet deducted against sales revenue.

#### 4. Unit-Driven Expenses

These are incremental costs that increase with each additional unit sold, such as shipping, handling, and packaging. These costs depend mainly on weight and/or size of product, not on sales value.

#### 5. Revenue-Driven Expenses

These are incremental costs that increase with each additional dollar of sales revenue, such as commissions paid to salespersons based on a percent of sales amounts and credit card discounts paid by retailers to the bank that are based as a percent of sales amounts. Note that the percent is given in the profit model (7.50 percent of sales price in the example) so the dollar amount is \$7.50 of the \$100.00 sales price.

#### 6. Unit Margin

This is an extraordinarily important amount; it's the amount of profit per unit after deducting from sales price the cost of the product sold and the variable expenses of making sales. *Warning:* Fixed operating expenses still have to be considered to determine total profit, as you see in Figure 1.1. But these fixed costs are considered in total, not on a per unit basis. In short, **unit margin** is profit per unit after all variable expenses are deducted from sale price but before fixed operating expenses are taken into account.

#### 7. Sales Volume

This is the total number of units sold over a period, net of units returned by customers. On a more technical note, this quantity may be the total number of customers served (such as for a restaurant) or the total number of sales tickets or sales invoices for the period.

#### 8. Contribution Margin

The margin from each unit sold contributes toward covering the total fixed operating expenses of the sales included in the profit model. A certain number of units must be sold just to cover the fixed operating expenses of the period. Once over this hump of fixed costs the additional units sold contribute toward profit.

#### 9. Fixed Operating Expenses

Virtually every business makes costs commitments for the period that cannot be changed too much over the short run, such as rent, depreciation, salaries, and utilities. These fixed expenses provide the capacity to make sales and to carry on operations—by providing the space, people, and other things needed to operate. One of the toughest decisions managers have to make is how much capacity



will be needed in the future, and whether to upsize or downsize the capacity of the business.

### 10. Profit (before Other Expenses)

This is the total amount of profit from sales before other expenses of the business are taken into account. These other expenses include the general, indirect fixed overhead costs of the business that cannot be matched with any particular source of sales, interest on the debt of the business, and income tax expense. Of course, a business has to take into account these other expenses when preparing the income statement for the business as a whole (which is discussed later in the chapter).

I could elaborate at length on each of the above profit model factors, but these brief explanations cover the essentials. Other aspects of the factors are expanded on as the need arises.

## Basic Lessons from Profit Model

In this section the most important lessons from the profit model are explained. (Using the profit model to chart the ways for improving profit performance is explained in Chapters 6 and 7.) Please keep in mind that the definition of *profit* at this point in this discussion is before deducting the indirect fixed costs of the business that cannot be linked to the sales activity included in the profit model, and before deducting the company's interest and income tax expenses. In other words, the profit amount in the profit model (Figure 1.1, line 10) is not the final bottom-line profit of a business, which is reported in the company's income statement. This is explained in the income statement later in the chapter. (For a sneak preview of the income statement you can look ahead to Figure 1.3.)

### **Question: How did the business make \$1.2 million profit?**

The business sold products for a \$100.00 average sales price and controlled its average product cost and its **variable expenses** of making sales so that its unit margin was \$27.00. The company's 100,000 units *sales volume* generated \$2,700,000 **contribution margin** (see line 8 in Figure 1.1). Deducting its \$1,500,000 *fixed operating expenses* for the period leaves \$1,200,000 million profit for the period. (Chapter 5 explains how to evaluate profit performance relative to sales revenue, assets used to make profit, and owner's equity capital invested in the business.)

**10 MAKING PROFIT 101****CALCULATION OF PROFIT**

$$\begin{aligned} \$27.00 \times 100,000 &= \$2,700,000 \\ -\$1,500,000 &= \$1,200,000 \end{aligned}$$

**Question:** At what sales volume would the business have just covered its fixed operating costs and made a zero profit for the period?

By earning \$27.00 unit margin and selling 100,000 units during the period (see lines 6 and 7 in Figure 1.1), the business garnered contribution margin that was \$1,200,000 more than its fixed operating expenses for the period. This is the profit for the period, of course. Now, suppose the business had sold only 55,556 units. In this scenario the company's profit would have been exactly zero: [55,556 units sales volume  $\times$  \$27.00 unit margin = \$1,500,000 contribution margin, which just equals its \$1,500,000 fixed operating expenses for the period]. The calculation of this particular sales volume is: [\$1,500,000 fixed operating expenses  $\div$  \$27.00 unit margin = 55,556 units (rounded)]. This zero profit scenario (or zero loss scenario, depending on your point of view) is called the **breakeven point**, or the **breakeven volume**. Subtracting the breakeven volume from actual sales volume reveals that the company sold 44,444 units in excess of its breakeven point. Sales volume would have to sink more than 44.4 percent before the business would slip into the loss territory, assuming its unit margin and total fixed operating expenses remain the same.

**CALCULATION OF BREAKEVEN SALES VOLUME**

$$\frac{\$1,500,000}{\$27.00} = 55,556$$

**Question:** How does the company's sales volume for the period stack up against its fixed operating expenses for the period?

Your attention is directed to lines 7 and 9 in the profit model (Figure 1.1)—sales volume and fixed operating expenses for the period. Virtually every business has fixed operating expenses, which cannot be easily reduced over the short run. The profit model includes the fixed costs that can be directly linked with the sales activity included in the profit module. In very rough terms there are three kinds of fixed operating expenses. A few are rock bottom costs necessary just to open the doors of the business—such as required annual licenses and inspections, minimum costs of telephone and utilities per period, a few employees that must be on the payroll, and so on.

Other fixed costs are the amounts spent on advertising and other marketing efforts to promote sales of products in the profit model. The third category of fixed operating expenses include all the cost commitments entered into by a business based on the sales volume its managers expect to achieve.

Managers make many fixed cost commitments for the coming period to provide the resources that are needed to carry on profit-making activities—the number of employees needed, the retail floor space needed, the warehouse storage space needed, and so on. These fixed operating expenses in the profit model provide the business with the personnel, space, equipment, and other things needed to sell 100,000 units during the period. Quite possibly the business could have sold more than 100,000 units given its level of fixed cost commitments for the period. Perhaps the business could have sold 125,000 units, for example, without having to have increased its fixed costs for the period.

Managers should make a rough estimate of the maximum sales volume that the business could sell based on its fixed operating costs for the period. In this example assume that the company had the capacity to sell 125,000 units. Now, assume that managers do not see any possibility of selling 125,000 units in the foreseeable future. In this situation, perhaps, the managers should bite the bullet and trim fixed costs to bring capacity in line with forecast sales.

**Question:** At what unit margin would the business have just covered its fixed operating expenses and made a zero profit for the period?

The company's total fixed operating expenses for the period were \$1,500,000. Keeping sales volume at 100,000 units for the period, the business would have needed a minimum unit margin of \$15.00 to earn total contribution margin of \$1,500,000 to cover its total fixed operating expenses for the period: [ $\$1,500,000 \text{ fixed operating expenses} \div 100,000 \text{ units sales volume} = \$15.00 \text{ unit margin}$ ]. This scenario would have yielded a zero profit for the period. Of course, the goal is not to earn a zero profit. By comparing the actual \$27.00 unit margin against the \$15.00 *breakeven unit margin* managers determine how much cushion or reserve they have on the downside. Unit margins are always under downward pressure. Unit margins can slip due to cut sales prices, or because of increases in one or more of the three variable expenses of making sales—**product cost, unit-driven expenses, or revenue-driven expenses.**

**12 MAKING PROFIT 101****CALCULATION OF BREAKEVEN UNIT MARGIN**

$$\frac{\$1,500,000}{100,000} = \$15.00$$

**Question: How did the business make its \$1.2 million profit?**

Wait a minute. Didn't we already answer this question? Yes, this is the same question again. It is answered in a different way here, a way that is more helpful in understanding profit sensitivity to changes in sales volume. As just calculated the company's breakeven volume is 55,556 units. The company actually sold 44,444 more units than its breakeven volume: [100,000 units sales volume – 55,556 breakeven sales volume = 44,444 units excess over breakeven].

One way to look at how the business made its profit is that 55,556 units of sales were needed to cover its fixed operating expenses, and once over this hump the additional units sold provided profit. According to this viewpoint, the company's profit is calculated as follows: [44,444 units sold in excess of breakeven × \$27.00 unit margin = \$1,200,000 profit].

Examples of this profit concept are retailers who depend on their busy seasons from Thanksgiving through Christmas, which makes or breaks their profit performance for the year. The thinking is that the units sold from the start of the year to Thanksgiving cover their annual fixed costs, and their profit depends on sales during their busy season.

**CALCULATION OF PROFIT AS EXCESS SALES OVER BREAKEVEN VOLUME**

$$\begin{aligned} 100,000 - 55,556 &= 44,444 \\ &\times \$27.00 = \$1,200,000 \end{aligned}$$

**Question: Does profit change by the same percent as a percent change in sales volume, unit margin, or fixed operating expenses?**

Intuitively what's your answer to this question? No fair sitting on the sidelines. What do you think? Time's up. The answer is a definite and unequivocal NO! Profit swings up or down more than the percent change in a profit factor. To illustrate this extremely important point from the profit model I change each factor by a favorable 10 percent. I look at each change singularly, which means the other profit factors are held the same. Suppose sales volume increases 10 percent, which is 10,000 units. Each additional unit sold earns an additional \$27.00 unit margin, so profit improves \$270,000. The profit improvement is 22.5 percent: [\$270,000 additional contribution margin ÷ \$1,200,000 baseline profit = 22.5% improvement].

The reason for this larger percent change in profit is not obvious. Recall that the company makes \$1,200,000 profit because it sold 44,444 units in excess of its breakeven volume. The 10,000 additional units represent a 22.5 percent increase in the excess over breakeven sales volume:  $[10,000 \text{ units increase in sales volume} \div 44,444 \text{ units over breakeven sales volume} = 22.5\%]$ . In other words, the units bringing in the profit (once fixed costs have been covered by the first 55,556 units sold) increase by 22.5 percent, so profit increases accordingly.

The bigger swing in profit relative to a smaller swing in total sales volume is referred to as **operating leverage**. The company's fixed costs provide a fulcrum point on which it can put its sales volume lever. The assumption is that sales volume could increase 10 percent, to 110,000 units, with no increase in total fixed operating expenses. (As assumed earlier, the level of fixed operating expenses for the period provided the business 125,000 units sales capacity.)

Suppose that the unit margin had been 10 percent better, or \$2.70 higher than in the profit model:  $[\$27.00 \text{ unit margin} \times 10\% \text{ improvement} = \$2.70 \text{ gain}]$ . The business sold 100,000 units, so the \$2.70 unit margin improvement would have increased profit \$270,000, the same amount as for the 10 percent sales volume gain.

Suppose total fixed operating expenses could have been improved (reduced) 10 percent. Shaving 10 percent off its fixed costs would have saved \$150,000 on the expense side and added \$150,000 on the profit side, and this equals a 12.5 percent improvement in profit:  $[\$150,000 \text{ reduction in fixed operating expenses} \div \$1,200,000 \text{ profit} = 12.5\% \text{ increase in profit}]$ . But be careful here. Reducing fixed operating expenses could cause a significant reduction in capacity. The business should make sure that it still had the number of people, the space, and the equipment needed to sell 100,000 units over the period (in this example). Cutting fixed costs 10 percent could cause much more than a 10 percent reduction in capacity.

Now for the bad news. To this point I have examined changes that improve profit performance. What would have happened if each factor in the profit model had moved 10 percent in the opposite direction? Profit would have plunged 22.5 percent if sales volume or if unit margin had decreased 10 percent. And profit would have dropped 12.5 percent if the company's fixed operating expenses had gone up 10 percent. The percent of change in profit is a two-edged sword: The swing in profit is as bad on the downside as it is good on the upside. The main lesson is that the percent change in profit is more volatile than a percent change in a factor driving profit.

**14 MAKING PROFIT 101****CALCULATIONS OF PERCENT CHANGES IN PROFIT**

$$\begin{aligned}
 \text{10\% Sales Volume Change: } & 10,000 \times \$27.00 = \$270,000/\$1,200,000 \\
 & = 22.5\% \\
 \text{10\% Unit Margin Change: } & \$2.70 \times 10,000 = \$270,000/\$1,200,000 \\
 & = 22.5\% \\
 \text{10\% Fixed Costs Change: } & \$1,500,000 \times 10\% = \$150,000/\$1,200,000 \\
 & = 12.5\%
 \end{aligned}$$

**From the Profit Model to the Income Statement**

The profit model is an excellent scaffold for constructing a profit plan for every profit module of a business. Managers set sales price targets, sales volume goals, and expense limits for achieving the profit objectives for the period. Of course, actual outcomes always deviate from the original plan, hopefully in positive directions for the most part. Shortly after the end of the period actual results are plugged into the profit model so that the manager can do a critical review of profit performance. Figure 1.2 reports the actual outcomes for the period just ended in comparison with the original plan for the example presented in Figure 1.1 earlier in the chapter.

Actual profit for the profit module turned out to be a little better than planned. If you were the manager having profit responsibility for this part of the business, you'd probably be reasonably pleased

**FIGURE 1.2 Plan and Actual Profit Model for Period**

	<b>Plan</b>	<b>Actual</b>
Sales Price	\$100.00	\$105.00
Product Cost Expense	\$60.00	\$63.00
Gross Margin	\$40.00	\$42.00
Unit-Driven Expenses	\$5.50	\$5.75
Revenue-Driven Expenses	7.50%	8.00%
Unit Margin	\$27.00	\$27.85
Sales Volume	100,000	102,000
Contribution Margin	\$2,700,000	\$2,840,700
Fixed Operating Expenses	\$1,500,000	\$1,568,000
Profit (before Other Expenses)	\$1,200,000	\$1,272,700

**Tip**

The income statement is one of the three primary financial statements comprising the hard core of a financial report. The other two financial statements are the statement of financial condition (also called the balance sheet) and the cash flows statement. The statement of financial condition summarizes the financial situation of the business at the end of the period. The cash flows statement summarizes its sources and uses of cash during the period. The financial statements released outside the business to its shareowners and lenders are called *external* financial statements. External financial statements conform to established financial disclosure standards and accounting methods called generally accepted accounting principles, or GAAP for short. These authoritative guidelines have been developed over many years to ensure adequate disclosure and a common core of consistent accounting methods, so that business investors and lenders are provided a reliable base of information about a business.

with the results. Techniques for the comparative analysis of actual outcomes against the profit plan are explained in Chapter 6. Here I want to build a bridge from the profit model example to the financial statement that reports profit performance. This profit report is the **income statement**.

As soon as possible after the close of its fiscal (accounting) year a business prepares the annual income statement that summarizes its sales revenue and expenses for the year. Subtracting expenses from sales revenue (plus any other income a business may have) gives the net profit or net loss for the year. The income statement is also called the **profit and loss statement** although a business has either a profit or a loss, but not both for the period.

An income statement is prepared for the business as a whole, as one comprehensive enterprise. Of course the top-level managers and directors of a business need to look at the business as a whole, in its entirety. Top-level managers also need to look at the separate pieces, segments, and components of the business. Mid-level and lower-level managers focus on their particular areas of responsibility. A separate profit model is needed for each profit module of the business, as argued earlier in the chapter. Even a smaller business may have 5 or 10 distinct sources of sales and profit.

***Presenting the Income Statement***

Figure 1.3 presents an income statement for the profit model example—as if the example is the entire company. I do this so you can fol-

**FIGURE 1.3** Income Statement for Period

Sales Revenue	\$10,710,000
Cost of Goods Sold Expense	<u>\$6,426,000</u>
Gross Margin	\$4,284,000
Selling and Administrative Expenses	<u>\$3,011,300</u>
Earnings before Interest and Income Tax	\$1,272,700
Interest Expense	<u>\$XXX,XXX</u>
Earnings before Income Tax	\$XXX,XXX
Income Tax Expense	<u>\$XXX,XXX</u>
Net Income	<u><u>\$XXX,XXX</u></u>

low the data from the profit model into the income statement. In other words, assume that the business sells only the products included in the profit model example. Assume also that all fixed operating expenses of the business are included in the profit model. The business does not have additional central office fixed costs that have to be brought into the income statement. (Typically, a business has some amount of headquarters costs that are not allocated or assigned to its different profit modules.) Note in the income statement that the company's earnings before interest and income tax is \$1,272,700. This is the same actual profit amount shown on the last line in the profit model (see Figure 1.2).

The income statement reports two expenses not included in the profit model—*interest expense* and *income tax expense*. (In Figure 1.3 no specific amounts are shown for these two expenses.) The profit model ends with profit before interest and income tax expenses. Most businesses borrow money and pay interest on the amount borrowed. Interest is the financial cost of using debt capi-

**Tip**

**External income statements sent to the shareowners of businesses report actual sales revenue, expenses, and profit, usually in comparison with the actual results of the previous period or two periods. The budgeted sales revenue and expenses for the year are not reported outside the business. For internal reporting to managers, on the other hand, actual sales revenue and expenses should be presented in comparison with the budgeted amounts for the period, so that managers can focus on significant deviations.**



tal. Every business has to determine its annual taxable income, which is a rather complex calculation, to say the least. Many businesses do not pay income tax as a separate entity. Instead they are taxable income conduits; they pass through their annual taxable income to their owners, who must include their shares of the total taxable income of the business in their tax returns. Many business corporations have too many stockholders to qualify as a pass-through tax entity. Therefore, they have to pay income tax on their taxable income.

Take notice that the income statement presents *cumulative total amounts* of sales revenue and expenses for the period. The first, or top line in the income statement reveals that sales revenue was \$10,710,000 for the period. In contrast the profit model focuses on the two variables that determine total sales revenue, which are the \$105.00 average sales price and the 102,000 units sales volume for the period (see Figure 1.2). Total sales revenue is equal to: [ $\$105.00$  average sales price  $\times$  102,000 units sales volume = \$10,710,000]. Managers need to know all three variables in this equation, not just the total amount. The profit model reveals that the average product cost was \$63.00 per unit for the 102,000 units sales volume for the period. In contrast the income statement reports only the total \$6,426,000 cost of goods sold expense. In short, the profit model focuses on the specific variables that drive profit, whereas the income statement focuses on the cumulative amounts of sales revenue and expenses for the period.

Note another difference between the income statement and the profit model. In the income statement all operating expenses, both variable and fixed, are lumped together. See in Figure 1.3 the \$3,011,300 total amount for Selling and Administrative Expenses—a commonly used generic title for operating expenses. External income statements do not divide operating expenses into variable and fixed classes. So only one total amount is shown in Figure 1.3 for the company's operating expenses. Internal income statements reported to managers should separate between variable and fixed operating expenses, but in my experience internal accounting reports do not emphasize this key distinction between the fixed and variable behavior of expenses.

Because fixed operating expenses are not reported as a separate item in the income statement, the company's contribution margin for the period is not reported. (Refer to the profit model shown in Figure 1.2 for the contribution margin earned by the business.) Without knowing its total fixed operating expenses, we cannot determine the company's breakeven sales volume. In summary, the information

boundaries of the income statement limit its usefulness for management analysis. The profit model provides the additional specific information that managers need in making decisions and in reviewing profit performance.

### ***Running through the Income Statement***

In this section the elements of the income statement are explained briefly. Please refer to Figure 1.3 as each line is explained.

#### **Sales Revenue**

The top line of the income statement equals total revenue, or gross income from sales of products and services over the period. The amount is net of any sales discounts, rebates, and product returns. So, the amount is also called *net sales revenue*. Sales returns, rebates, and other discounts and allowances are recorded and reported to managers so that they can keep an eye on these sales revenue offsets. Annual sales revenue is the most popular measure of the size of a business, although total assets and number of employees also are used to express the size of a business.

#### **Cost of Goods Sold Expense**

This amount is the total cost of all products sold to customers over the period. Fluctuations in unit product costs (which are typical) force a business to choose between alternative accounting methods to record this major expense. Different accounting methods yield somewhat different expense amounts, a topic discussed in Chapter 13.

#### **Gross Margin**

This amount equals profit before other expenses are deducted. Gross margin is also called gross profit. Most businesses have developed benchmark ratios for their gross margins that are necessary to make a satisfactory bottom-line profit. In the example the company's gross margin ratio is 40 percent: [ $\$4,284,000 \div \$10,710,000$  sales revenue = 40%]. Gross margin ratios vary widely industry to industry, and product line to product line within a business. Gross margins of 20 percent or less are rare. Some products are sold at extraordinarily high gross margins of 75 percent or more because the business has very high expenses of selling the products or very high fixed costs (such as research and development expenditures).

#### **Selling and Administrative Expenses**

This figure is the amount of all variable and fixed operating expenses for the period. Two or more lines of these expenses may be reported in an income statement, classified by function (marketing, research

and development, administration, etc.), or by object of expenditure (salaries, property taxes, office expenses, etc.).

### **Earnings before Interest and Income Tax (EBIT)**

This profit measure is the residual amount after deducting the cost of products sold and all operating expenses from sales revenue. The idea is to show profit before two other types of expenses are subtracted, that is, the cost of debt (the interest paid on borrowed money) and the income tax levy on the business.

### **Interest Expense**

It's possible that a business has no interest-bearing liabilities. But most businesses borrow money. A business has a contractual obligation to pay interest, even if the business suffers a loss before interest expense is considered. Interest is the first take out from EBIT, and interest expense is deductible to determine taxable income.

### **Earnings before Income Tax**

Because of the complexities of the income tax law and because a business has many options under the income tax law, a business's actual taxable income for the year usually is different from the pretax earnings figure in its income statement. Without going into technical matters here, I'll simply mention that in these situations an accounting manipulation is recorded so that the income tax expense amount reported in the income statement is consistent with the amount of earnings before income tax reported in the income statement.

### **Income Tax Expense**

A business legally organized as a partnership does not pay federal income tax as a separate entity. A business legally organized as a limited liability company can elect to pay no income tax itself. A corporation with no more than 75 stockholders can elect to be treated as an S corporation that does not pay income tax. These types of businesses pass-through their annual taxable income to their owners. A regular corporation pays federal income tax on its annual taxable income. If the corporation distributes some of its aftertax profit to its shareowners, the cash distributions are taxable in their hands as dividend income.

### **Net Income**

This is the so-called **bottom-line** profit earned for the year (or other period). A business may record one or more nonrecurring, extraordinary losses or gains in the period—such as uninsured losses,

asset write-offs, legal damages assessed against the business, selling off a major part of the business at a large gain, and so on. These unusual losses or gains, net of their related income tax effects, are reported separately from the ordinary ongoing sales revenue and expenses of the business. Net income from continuing operations is reported on one line, and these extraordinary gains and losses are added or subtracted to arrive at the bottom-line net income. Publicly owned businesses also report their net income, or earnings per share of stock.

No two income statements are exactly alike in every respect. Figure 1.3 presents the basic format and content of a typical income statement. But I can tell you, having read thousands of income statements over the years, that I've seen many variations and idiosyncrasies from business to business and even by the same business from year to year.

## Summary

- Profit is not by happenstance; a business must craft a clear-cut strategy to reach its profit objectives.
- A business should develop a well-thought-out and thorough business plan that clearly points the way to reaching its profit objectives.
- A business should encapsulate its strategy and business plan into a pithy statement of very few words, which is called a business model.
- The profit model is the quantitative counterpart to the business model; the profit model focuses on the relatively few decisive factors that drive profit.
- The profit model is an essential analysis tool that helps managers in making decisions and in reviewing actual profit performance.
- The income statement reports the profit performance of a business for a period. This financial statement focuses on total amounts of sales revenue and expenses for the period. In contrast, the profit model focuses on the key variables that managers have to decide on and to reach the profit objectives of the business.

### Summary Review Exercise

**Facts:** For this exercise the business has three profit modules. The data for the three profit models are given next. The business had \$428,500 total central office fixed overhead costs for the year, none of which was allocated to its three profit modules. The company's total interest expense for the year was \$795,000. To simplify, assume that the company's taxable income for the year is the same amount as its earnings before income tax in the income statement. The income rate is 35 percent on its taxable income.

**Required:** Complete the three profit modules for the year, and prepare the company's income statement for the year. Use the following templates. The answers are given on the next page.

<b>Profit Models</b>	<b>Module A</b>	<b>Module B</b>	<b>Module C</b>
Sales Price	\$45.00	\$103.25	\$225.00
Product Cost Expense	\$31.75	\$46.65	\$158.50
Gross Margin			
Unit-Driven Expenses	\$2.75	\$7.85	\$15.75
Revenue-Driven Expenses	4.60%	9.15%	12.50%
Unit Margin			
Sales Volume	425,000	115,000	38,500
Contribution Margin			
Fixed Operating Expenses	\$1,685,500	\$2,057,250	\$1,568,000
Profit before Other Expenses			

**INCOME STATEMENT**

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Sales Revenue	
Cost of Goods Sold Expense	_____
Gross Margin	
Selling and Administrative Expenses	_____
Earnings before Interest and Income Tax	
Interest Expense	<u>\$795,000</u>
Earnings before Income Tax	
Income Tax Expense	_____
Net Income	<u>_____</u>

**22 MAKING PROFIT 101****FIGURE 1.4 Profit Model Answers**

	<b>Module A</b>	<b>Module B</b>	<b>Module C</b>
Sales Price	\$45.00	\$103.25	\$225.00
Product Cost Expense	\$31.75	\$46.65	\$158.50
Gross Margin	\$13.25	\$56.60	\$66.50
Unit-Driven Expenses	\$2.75	\$7.85	\$15.75
Revenue-Driven Expenses	4.60%	9.15%	12.50%
Unit Margin	\$8.43	\$39.30	\$22.63
Sales Volume	425,000	115,000	38,500
Contribution Margin	\$3,582,750	\$4,519,802	\$871,063
Fixed Operating Expenses	\$1,685,500	\$2,057,250	\$1,568,000
Profit before Other Expenses	\$1,897,250	\$2,462,552	(\$696,938)

**FIGURE 1.5 Income Statement Answers****INCOME STATEMENT**

Sales Revenue	\$39,661,250
Cost of Goods Sold Expense	\$24,960,750
Gross Margin	\$14,700,500
Selling and Administrative Expenses	\$11,466,135
Earnings before Interest and Income Tax	\$3,234,365
Interest Expense	\$795,000
Earnings before Income Tax	\$2,439,365
Income Tax Expense	\$853,778
Net Income	\$1,585,587