SBA
U.S. Small Business Administration

CS-2

Common Sense Forecasting

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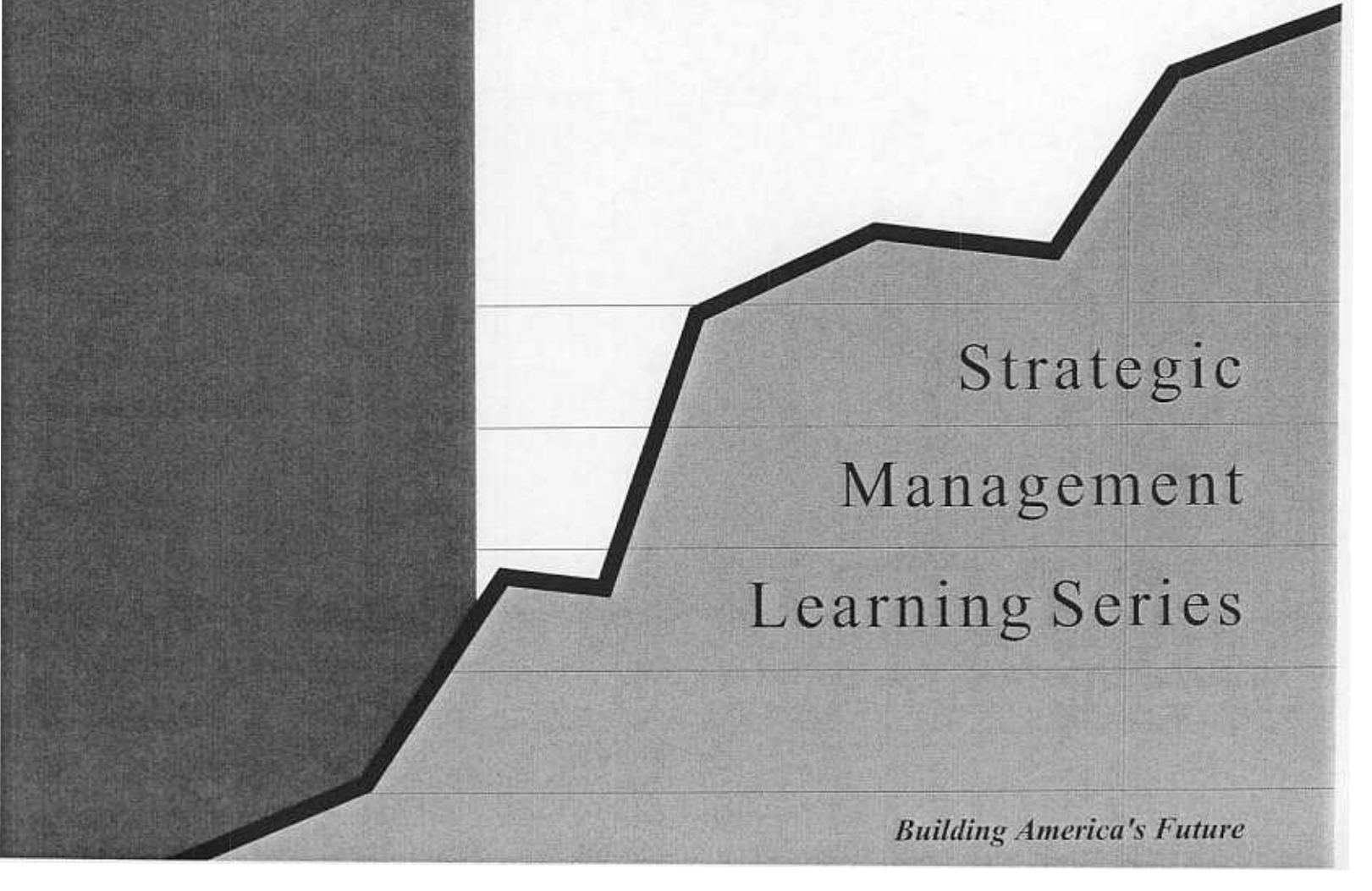


Strategic Management Learning Series

Building America's Future

Common Sense

In This Workbook

FORECASTING THE 7 STEPS

1. Identify all FIXED and VARIABLE costs
2. Determine your BREAK-EVEN sales level
3. Evaluate the odds of reaching break-even
4. Determine when you will reach break-even
5. Plot the break-even level on a graph against TWO curves: reasonable growth and pessimistic growth
6. Translate the graphs into an INCOME FORECAST
7. Translate the income forecasts into a CASH FLOW

FORECASTING

Understand Where You Want To Go - Then Plan How To Get There

WHY FORECAST?

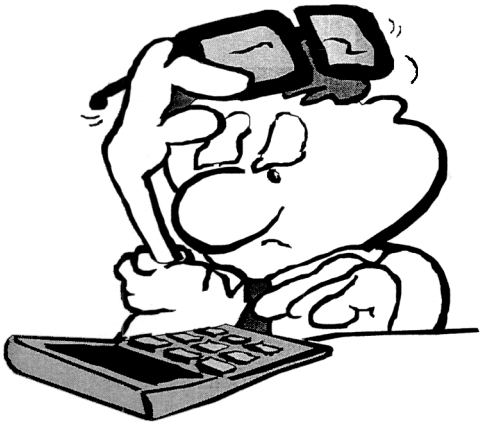
Forecasting is the core of any business plan and requires looking to the future. Running a business without a forecast is like taking a trip without a destination. Through random chance and luck, you may get somewhere you like, but the odds do not favor this result. In order to improve your chances of achieving a desirable outcome, you need to identify your specific destination. Once this is done, you can then determine the best route for getting there.

The same is true in your business.

Forecasting is the process of identifying that destination and then establishing a rough map for your business' future activities. This map will not be 100% accurate, but, of course, a rough map in unfamiliar territory is far better than none. If the assumptions on which the forecast are based are realistic, this rough map will be at least sufficiently accurate to locate potential hazards and to establish direction for the business to follow.

Forecasting is based on carefully reasoned assumptions, quantified in an organized way to make your projections about what will happen in the future as accurate as possible. By taking a systematic approach to forecasting, you gain a deeper knowledge and understanding of your business. The final product of your forecasting effort becomes your projected cash flow, the basis of the cash budget which in turn is the primary tool for controlling your business (*COMMON SENSE,* Workbook #1).

Carefully done, forecasts can be used to plan for profit. Large companies spend millions of dollars forecasting, both for profit and, what may be even more important, for setting meaningful planning objectives. These objectives then become the basis for strategies the companies can use to meet their profit targets.



Forecasts anticipate what is likely to happen in the future and give you the basis for developing a plan to make the most of where you are headed.

Forecasting is also useful as a means of evaluating business practices - both as a review and, with deviation analysis, as a management control (*COMMON SENSE,* Workbook #3), and as an inexpensive means of figuring out how different practices and assumptions will affect your company.

Forecasting and constructive review are inseparable parts of the same process. The advantages of careful forecasting are many and outweigh the time, effort and difficulty of preparing them.

In fact, time spent in forecasting, if the assumptions are rigidly scrutinized, will pay off in preventing problems, in finding better ways to operate, and in sparking new ideas and deeper understandings of your business - all of which enhance profits.

The purpose of forecasting is twofold. It both affords an excellent opportunity to review the past, and it provides the best guide to the future your business can have. We know from experience that almost any smaller business will be successful if the managers have a sense of direction and purpose based on a realistic assessment of the business's potential - and limitations.

Careful forecasting provides such direction, yet can be extremely difficult to

achieve. It requires conscious planning and forethought which most smaller business managers, driven by the pressure of daily crises, fail to allot time for. Smaller firms flounder when they are run on a haphazard, helter-skelter basis, reacting to outside pressures on a desperation basis rather than preparing for and preventing crises.

It's that simple. And that complex.

Forecasting - *No Magic, No Crystal Ball*

WHAT IS FORECASTING?

Forecasting often seems like a very mysterious process. Obviously, no one can know for sure what is going to happen in the future. It is possible, though, to make reasonably accurate predictions based on a logical assessment of the facts that are available to you now. There is no magic to it, no crystal ball. There is instead, a careful analysis of past and current business practices, a degree of extrapolation of current trends (sales, expenses, major economic shifts such as inflation, and others), and a great deal of creative examination, evaluation, and revision of the assumptions you use to operate your business.

STEP 1:

Identify All Fixed And Variable Costs

Fixed Costs - *Remain Constant*

Forecasting provides you with an excellent opportunity to determine how your business operates - an opportunity which is rare if you are as pressed for thinking time as most of us are. It does take time, and rare though that time may be, you will simply have to force yourself to invest this time toward a smoother, more profitable operation in the future.

FORECASTING: The Seven Steps

The following process is designed to show you how to make forecasts as accurate and therefore as useful as possible. The test which should be applied to this process is one of reasonableness. The secret is simple enough. It is a matter of continually reexamining the assumptions that are being used to ensure that they make sense. However, like many things which are simple in theory, it is not that simple in practice. The Seven Steps have been developed as a guide through the complexity of this process and to make reexamining assumptions more understandable and more useful for business owners and managers who are not experts in doing this kind of work.

Variable Costs - *Change With Output*

COMMON SENSE Forecasting
7 Steps

1. Identify all FIXED and VARIABLE costs.
2. Determine your BREAK-EVEN sales level.
3. Evaluate the odds of reaching break-even.
4. Determine when you will reach break-even.
5. Plot the break-even level on a graph against TWO curves: reasonable growth and pessimistic growth.
6. Translate the graphs into an INCOME FORECAST.
7. Translate the income forecasts into a CASH FLOW.

The following sections discuss each of these steps in detail and provide illustrations of the different techniques you will need to use in creating your own forecasts for your own business. If you have problems at any point, and it is reasonable to expect that you may, do not hesitate to contact your local business information center, your accountant, your banker, your consultant, or someone else who can help you find the answers.

It is also critical to acknowledge that these *SEVEN STEPS* take time and thought - otherwise they won't help. Take time to experiment with combinations of different alternatives. Your forecasts lead you to your STRATEGIC PLAN (*COMMON SENSE,* Series 1, Workbook 11), and your strategic plan is your strategy for success. The process of developing these forecasts will more than repay the time and effort you give to it. In fact, it may save the life of your business - and your own future as well.

STEP 1: Identify All Fixed And Variable Costs

As a going concern, your business has generated expenses over the course of a year. Once all of the potential expenses that the business will incur have been identified, they must be classified as either "fixed" or "variable."

FIXED COSTS ARE THOSE COSTS OR EXPENSES THAT ARE EXPECTED TO REMAIN RELATIVELY CONSTANT OVER A REASONABLE PERIOD OF TIME

Fixed costs are relatively unaffected by changes in output or sales up to the point where the level of operation reaches the capacity of the existing facilities. At that point, major changes would have to be made, such as the expansion of existing plant and equipment or the construction of new facilities. Such actions would increase the fixed costs. However, under normal operating conditions, the fixed costs (also referred to as indirect costs, overhead, or burden) will remain constant.

VARIABLE COSTS ARE THOSE COSTS OR EXPENSES WHICH VARY OR CHANGE DIRECTLY WITH OUTPUT

Variable costs are the costs which are associated with production and/or selling and are frequently identified as "costs of goods sold." As compared with the fixed costs, which continue whether the firm is doing business or not, variable costs do not exist if the firm is not doing business. Thus, by definition, variable costs are zero when no output is being produced. At that time, fixed costs are the only costs which will be incurred. Frequently, for smaller, rapidly growing firms, growth flexibility is maintained by keeping fixed commitments as low as possible.

As you review the fixed and variable cost items for the past year or more, keep in mind that they may fluctuate seasonally - and each item must have a reason. These expenses must individually and/or jointly serve a business purpose. If they do not, then why incur them? Can the expenses be reasonably lowered? Or even increased? Advertising, for example, is frequently under-funded to the detriment of the business.

By examining these costs one by one, you will reap several benefits. Among these will be added understanding of where all those monies dribble away to, ideas for economies, or perhaps warning of coming problems.

For most businesses, a great deal of helpful information is available. If you are involved in a start-up or an expansion, or even if you are in a stable, ongoing business situation and are trying to make your operation more efficient, there are various sources of help. Your accountant, because he is familiar with the cost structures of a variety of different business, will be able to help you make sure that you have identified all of the expense categories you can reasonably expect. In addition, various publications such as the Annual Statement Studies (Robert Morris Associates), show average operating expenses for a wide range of small businesses across the country. Trade associations and industry publications are still another source of such information. Others are listed in the reference section at the end of this workbook.

These publications can be extremely helpful. If you are projecting costs which differ significantly from trade averages, double check your assumptions. If you are projecting costs which are significantly lower than the averages, really force yourself to determine if these expectations are valid or if they are just hopeful figments of your imagination.

If you continue to project expenses which differ from the trade averages, try to differ on the side of caution, by either overstating expenses or putting any borderline items into the fixed expense category. PRUDENCE and PROFIT seem to go together.

STEP 2: Break-even Analysis

Break-even analysis is helpful in more than forecasting: it is also an important problem-solving tool. Break-even analysis can be invaluable in determining whether to buy or lease, whether to expand into a new area, whether to build a new plant, and many other considerations. Break-even analysis will not force a decision, of course, but it will provide you with additional insights into the effects of important business decisions on your bottom line. Informed decisions have a better chance of being correct than random seat-of-the-pants decisions.

Break-even also shows the impact on your business of changing your price structure. As the price goes down and so your gross margin goes down, break-even shoots up - usually very rapidly.

BREAK-EVEN REFERS TO THE LEVEL OF SALES NECESSARY TO COVER ALL OF THE FIXED AND VARIABLE COSTS

If a firm's costs were all variable, the problem of break-even would never arise because sales would automatically cover the costs of goods

Examples of Fixed and Variable Costs

FIXED COSTS
Depreciation on plant and equipment
Rent, mortgage payments
Interest
Executive and office salaries
General office expense
Property taxes

VARIABLE COSTS
Cost of goods sold
Factory labor
Sales commissions
Material
Freight-in (and -out)
Variable factory expenses
Utilities other than fixed (i.e., heat)
Direct labor
Sales expense

STEP 2:
Break-even Analysis

Formula For Determining Break-even Sales Levels

Break-even Sales is BES
Fixed Costs is FC
Variable Costs is VC

BES = FC + VC

Break-Even Analysis...

A Planning Tool

A Decision Tool

A Pricing Tool

An Expense Tool

Break-even equals Fixed Costs plus Variable Costs

sold as long as you price each item or service at cost or above. By having some fixed as well as variable costs or expenses, the firm must suffer losses up to a given volume. We look for the point where the gross profit, or excess of selling price over cost, exactly equals the fixed expenses. The break-even is the point at which the business neither makes a profit nor has a loss: the business "breaks even."

Break-even analysis will provide a sales objective which can be expressed in either a number of dollars or a number of units of production or sales or whatever else is relevant to show the level at which the business will be breaking even. If the break-even point is known, it can be a definite target to be reached and exceeded by carefully reasoned steps. Many businesses have destroyed themselves by ignoring the need for break-even analysis. It is essential to remember that increased sales do not necessarily mean increased profit (See Mini-Case). For example, if the selling price is reduced in order to stimulate sales, the break-even point may be forced upward to such an extent that, practically speaking, the business could never achieve sufficient sales to break even.

BREAK-EVEN IS A PLANNING TOOL, A DECISION-MAKING TOOL, A PRICING TOOL, AND AN EXPENSE CONTROL TOOL

A Planning Tool: As a planning tool, break-even analysis indicates the targets the business must achieve and provides a quick and direct way of evaluating the impact of the various alternatives on the business strategy. If the break-even is unrealistically high, then it is clear that the business will never be able to achieve those levels of sales because it would require an inordinately high percentage of the target market, or it would require the processing of more goods and services than the business has the capacity to handle, so, clearly, that alternative should not be pursued. On the other hand, if the break-even is extremely low, it may suggest that a more profitable strategy could be pursued or at least seriously considered.

A Decision Tool: As a decision-making tool, break-even helps to evaluate the various alternatives that are available to the business. Projecting the effect of these alternatives through a break-even analysis is a far safer way of determining their impact on the business than experimenting with the actual operation. In this manner, the negative impact of certain alternatives can be anticipated and thereby avoided. Problem solving by avoidance is far preferable to the agony of correction and recovery.

A Pricing tool: Break-even is an important pricing tool, showing the relationship between price, contribution and volume. These factors are related to the decision making aspect of break-even analysis as it provides a direct and straight-forward approach to considering a series of prices and their impact on the business. It is generally assumed that as price goes down, volume is likely to increase. As noted, however, this is not necessarily desirable. The underlying focus must be on the relationship between contribution or gross profit and fixed costs. This is critical, because, as the contribution or gross profit decreases relative to the fixed costs, the break-even point will increase. It may increase to such a level that the resulting sales goals are simply too high relative to the market or business capacity, and so must not be pursued.

An Expense Control Tool: Finally, as an expense control tool, break-even provides a way of evaluating the impact on the business of various expenses and provides an interesting and sometimes very different way to consider the need or relevance of a given expense on the total operation. If it is not essential and the business is feasible without it, that cost can be eliminated and profits improved. If it is essential but forces an unrealistically high break-even, then the choice must be made not to pursue that course of action.

There is a very simple and direct relationship between expenses, sales and profit. Profit can be increased typically by increasing sales or decreasing expenses. Accordingly, it is useful for any business to inspect expenses as profits which would otherwise be available to the owners and so, determine whether or not particular expenses are truly essential to the operation. An ongoing break-even analysis can be incorporated as part of the expense review and control process to maintain a floating sales objective. Expenses have a tendency to increase almost invisibly in most operations. Accordingly, it may seem that the business is improving even though the profits are in fact shrinking. An ongoing break-even analysis will help to indicate the impact of any changes on the total business operation.

CALCULATING BREAK-EVEN

Break-even is based on the relationship of fixed and variable costs to sales. The sales level that exactly equals the total of fixed costs and variable costs is the break-even point. The basic break-even equation is:

B/E = FC + VC
FC = Fixed Costs in Dollars
VC = Variable Costs in Dollars.

There are variations on this basic formula

which can be used when different combinations of the basic factors are known, such as:

B/E = FC/(1-VC/S)
FC = Total Fixed Costs in Dollars
VC = Total Variable Costs in Dollars
S = Total Sales in Dollars

Finally, it is possible to calculate your break-even when you do not know what your total variable cost will be, but you know your gross margin. The gross margin is the percentage of gross profit to sales (gross profit divided by sales). The gross profit is the amount remaining once the variable costs have been subtracted from sales. This equation is:

B/E = FC/GM
GM = GP/S
FC = Total Fixed Costs in Dollars
GP = Gross Profit
(or Sales minus Variable Costs)
S = Total Sales in Dollars

Example of Break-Even Analysis

Let us assume that a furniture dealer has total sales of $3,000,000 per year, variable costs of $1,950,000, and fixed costs of $210,000.

VC = $1,950,000/$3,000,000 = .65 (65%)
B/E = $210,000/(1-.65)
= $210,000/.35
= $600,000

In other words, the dealer needs $600,000 a year in sales to cover all of his fixed expenses. At this point, he would make neither a profit nor a loss; his business will "break even."

The furniture industry has a high gross margin, whereas the grocery business has a low gross margin, say 20% as opposed to 35%. For the same fixed expenses, a grocer would need $210,000/20%, or $$1,050,000 in sales. The lower the gross margin, the higher the sales must be to cover the same amount of fixed costs.

With this type of analysis, it becomes relatively simple to evaluate the impact of discrete units of cost. Now - do you really need a fancy office (a fixed expense) or a Lear Jet? Maybe - but your decision should bear scrutiny, and B/E analysis is a good place to start. Simply put, break-even analysis will show you the additional sales needed to cover the additional fixed cost. Lets say that the grocery store owner wants to lease a fancy new car for $1,500 per month, or $18,000 per year. How much additional business must he do to cover this cost? Easy - divide the cost by the gross margin: $18,000/20% = $90,000. The grocer must achieve an additional $90,000 in sales to pay for the nice car. Again, the question - is it worth it? As you will see shortly, the companion question is whether the market can support the additional sales as well!

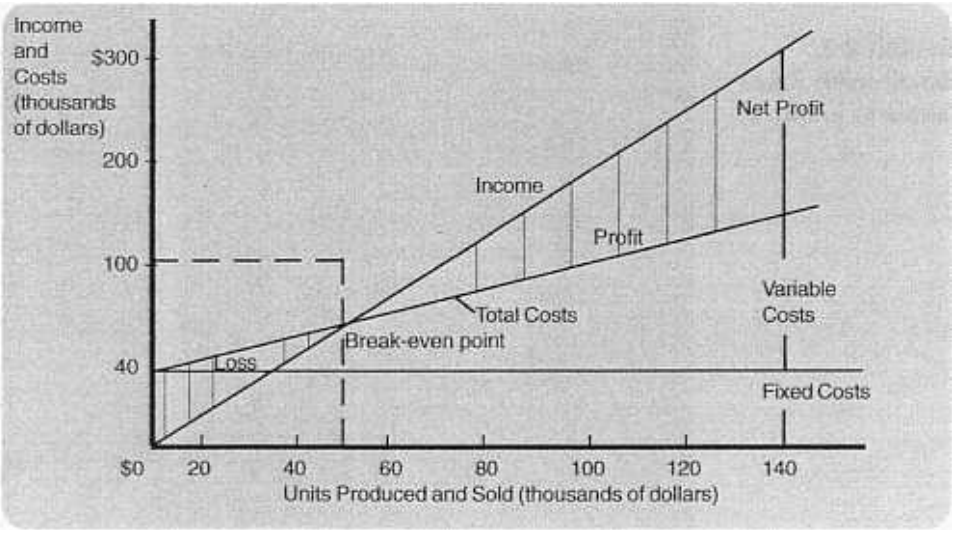
BREAK-EVEN CHART

Another way to calculate your break-even sales level is by using a break-even chart. Many people find the visual aspect of these charts more useful than the more accurate number method used above. However, the relationships between the elements holds relatively constant, and any close decision will probably be made on grounds more comprehensive than just these calculations anyway. It is well to remember that these figures are not the total criterion.

DOES IT ALL MAKE SENSE? is the question.

A break-even chart is constructed on a per unit basis, as shown by the example (Exhibit 2-1). In that diagram, fixed costs of $40,000 are represented by a horizontal line, and variable costs are represented as an ascending line increasing by $1.20/unit, starting from the fixed cost base, and so equals total costs. Sales are figured at $2.00/unit and so equal total sales -

Exhibit 2-1
Break-even Chart



Formula For Determining Break-even Sales Levels With Different Combinations of Available Data

Break-even Sales $ is BES
Total Fixed Costs $ is FC
Total Variable Costs $ is VC
Total Sales $ is S

BES = FC/(1-VC/S)

- or -

Break-even Sales $ is BES
Gross Margin is GM
Gross Profit is GP
Total Fixed Costs $ is FC
Total Variable Costs $ is VC
Total Sales $ is S

GP= S - VC
GM = GP/S
B/E = FC/GM

Do your assumptions make sense?

STEP 3:

What are the odds?

Cash flow rarely corresponds with income flow (COMMON SENSE, Series 1, Workbook 1)

and we assume that each unit produced is sold. (This may not be especially accurate in the short run, but in the long run it is a perfectly reasonable assumption.)

The sales/income line will start from the origin or the zero point. Since the rate of ascent of the sales income line is greater than that of the variable costs, the two lines will eventually cross.

The break-even point is where they coincide. In the example, this is 50,000 units: total sales = total costs = $100,000.

We can use our B/E formula to check our observed answer.

B/E = FC/(1-VC/S)
B/E = $40,000/(1-.6)
B/E = $40,000/.4
B/E = $100,000

You should keep in mind that this is a linear chart, based on a constant selling price. By changing the assumptions, you can estimate the effect of price changes fairly precisely by varying the slope of the income line.

Similarly, by altering the slope of the variable cost line, you can approximate cost changes. Once you have experimented with the possibilities here, you will probably find this to be a very interesting, thought-provoking exercise.

Collection problems should also be remembered here: Cash flow rarely corresponds with income flow (*COMMON SENSE,* Series 1, Workbook 1), and a prudent person does not expect that it necessarily will. If there are important differences between sales and cash flow, you may want to construct a B/E for each.

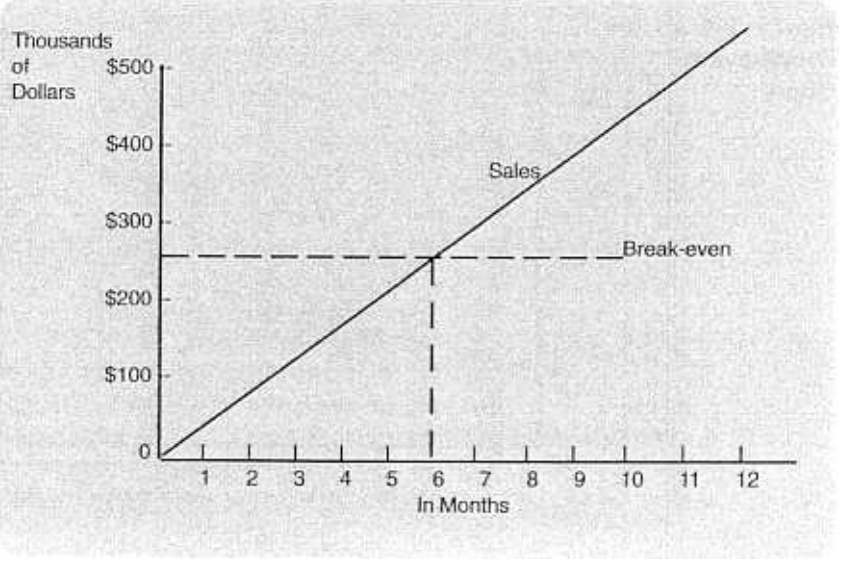
STEP 3: What Are The Odds?

Now that you know the level of sales you have to reach before making a profit, how reasonable is this target (Exhibit 2-2)? What are the odds of reaching this break-even sales level? One way to test this is to convert the gross dollar sales needed for break-even into some other unit which can then be compared against the capacity of the business or the size of the market. If the break-even occurs at or near the capacity of the business, or if your analysis shows that you must capture all (or more than all) of the available target market, the feasibility of your concept is suspect. The odds of business success are loaded against you. Clearly, this is a subjective process - but then, so is the rest of forecasting - you cannot eliminate this subjectivity completely. The purpose here is to try and make your evaluation as reasonable as possible.

Suppose you own a soup restaurant: how many bowls of soup does break-even represent? How many per working day? Per hour? How does that fit against your capacity? Does it mean a larger number of tables? Fewer? More waiters? Are the numbers feasible?

By putting the numbers into more concrete images, you may find the criterion of reasonableness (feasibility) easier to use. A business is an

Exhibit 2-2
Break-even Sales Goals In Months



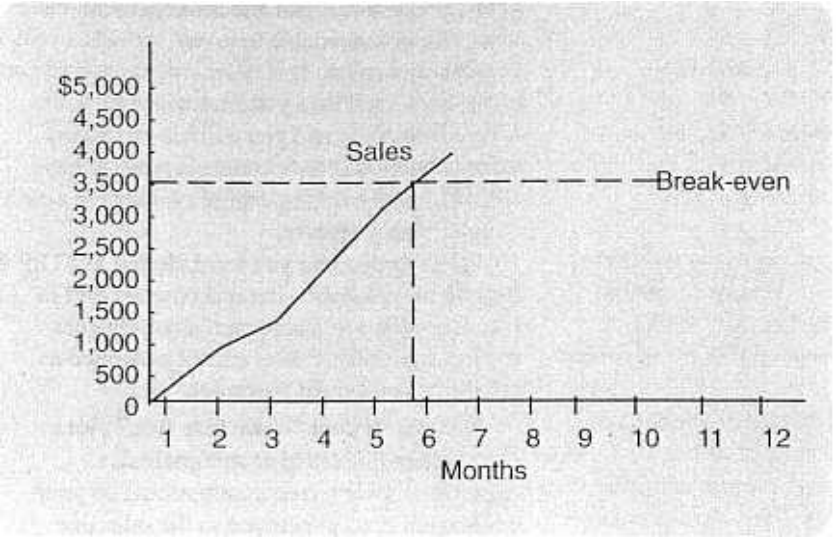


Exhibit 2-3
Reasonable Growth Curve

interconnected system, with each part related to all of the other parts. This is why piecemeal solutions often merely shift the problem to another part of the business operation. If you are aware of how the parts interrelate, you have a great advantage over those of the competition who do not. The unaware are the great majority.

Another way of using your break-even is to consider what share of the target market your break-even represents. While defining your target market is extremely difficult, it is very important. The effort you put into clearly defining that target (and continually redefining it - nothing remains unchanged) will pay giant dividends.

This is a critical step in determining the feasibility of your operation. If you can't say that your concept or operation makes sense at this point (as an expansion needing 110% of the market, for example), then reexamine your plans. The process of reexamination may make you aware of new solutions. In any case, recognizing limitations through this type of analysis is much cheaper than charging blindly into a disaster. If it isn't going to work at all, acknowledge it at this point and save yourself the agony of failure.

STEP 4: When Will You Reach Break-even?

As in the other steps, you are making rational estimates based on the clearest set of assumptions you can form. The month in which your gross sales equals your calculated break-even is the month in which your business goes from being a loss operation and starts moving into a profit. Virtually all new businesses will start out at a loss, simply because it takes awhile to get started, for new customers to find out where your business is and to learn that you are providing goods and services which will satisfy their wants and needs. It is essential to predict as accurately as possible how long it will take for your start-up operation to reach its break-even point because the sum of the monthly operating deficits up to that point will help you to determine how much working capital you will require for your business. For an ongoing business, past sales experience is a good guide here as well. Seasonal fluctuations remain fairly constant from year to year. If your pattern differs from the industry averages, ask why. Often asking this question will help you recast yours sales efforts in a more profitable way.

It is important to note that *FORECASTING* is based on *COHERENT REVIEW* and *RATIONAL ANALYSIS*. These two steps allow you to *control* your business better and *manage change* more efficiently.

One of the ways to project when you will reach the break-even point is to use a graph. Plot a line on that graph that seems to you to be a reasonable growth curve (Exhibit 2-3). The point at which that line crosses the break-even is, again, the point at which you will break even (no profit, no loss). The business in the example shown would break even in the sixth month.

Another way to achieve the same result is by calculating how many new customers you can add per month, how many old customers you can retain, the frequency of repeat sales, and the average dollar sale per customer:

Start-Up Customer Growth

Month	1	2	3	4	5	6
New	10	5	5	10	15	5
Old	0	10	15	20	30	45
# Customers	10	15	20	30	45	50

Assuming that you will never lose a customer, that frequency of repeat sales is one per month, and that average sale per customer is $75, gross sales will grow as follows:

STEP 4:

When Will You Reach Break-even?

Important Questions To Ask About Your Sales Levels

1. How fast will sales grow? Will they decline or stabilize?
2. How rapidly can you develop new customers and will your efforts pay?
3. What is the average sale per customer? Can it be increased?
4. What is the frequency of repeat sales? Can it be increased?
5. What is the state of the economy in general? In your industry?
6. Are there cyclical trends in your industry? How can they (and how do they) affect you?
7. What is the nature of your competition? Is it getting stronger or declining, or is new competition entering the market?

Start-Up Sales Growth

Month:	1	$75 X 10 X 1 = $ 750
	2	$75 X 15 X 1 = $1,125
	3	$75 X 20 X 1 = $1,500
	4	$75 X 30 X 1 = $2,250
	5	$75 X 45 X 1 = $3,375
	6	$75 X 50 X 1 = $3,750

Plotting these projections yields the growth curve shown in Exhibit 2-3. Assume the rate of sales will flatten and add the break-even line.

Break-even occurs between the fifth and sixth months.

You may have noticed that the assumption of never losing a customer is built in. Is this reasonable for your business? Probably not, yet many businesses proceed as if this were the case.

If you treat each step of the *FORECASTING* process as a new opportunity to check your assumptions, making a systematic attempt to ferret out and reconsider all of the assumptions, you cannot help but improve your company's performance.

STEP 5:
Reasonable Vs. Worst Case

STEP 5: Reasonable Vs. Worst Case

A contingency reserve is your backup working capital. Most businesses lose money when they start-up. Expansions usually behave similarly. By definition, these situations will lose money until they reach their break-even level of sales. The amount of this loss can be calculated through your cash flow analysis and is the amount that you must have available to invest in the business as working capital. If it takes longer to reach the break-even level than you first anticipated, the loss will continue and you will have to invest more capital. It is only common sense to have this additional working capital available as a cash or contingency reserve.

The growth curve you have plotted in STEP 4 may seem reasonable, but it is only prudent to consider what could happen if anything goes wrong, especially if sales are not generated as rapidly as you expect they might be.

To consider your "down side risk," plot a second sales line based on minimal sales expectation (worst case assumptions) on your break-even chart in addition to the sales line based on reasonable expectations. The area between the two sales lines will indicate the amount of contingency reserve you would be wise to carry (Exhibit 2-4). Clearly, if you thought that there was a reasonable possibility of not having any sales, you should reconsider the project!

STEP 6:
Income Forecasting

STEP 6: Income Forecasting

The parts of the process for income forecasting have now been assembled:

In **STEP 1,** you identified your FIXED and VARIABLE expenses.

In **STEPS 2 through 5,** you experimented

Case In Point; ABC Novelty Manufacturing Co.

CASE IN POINT

FORECASTING - Testing assumptions about alternatives. Looking at change. Reducing surprises. Being smart.

The ABC Novelty Manufacturing Co., Inc., had been in business for twelve years and doing OK. They had experienced a 8-10% rate of growth per year, and had reached their break-even sales level late in year one. Following that, they had made modest profits which were reinvested in the business to support overall growth.

ABC was struggling with an interesting opportunity. A major account that the sales force had been nurturing for some time had finally agreed to place an order - and what an order! The business represented by this one new customer would equal 50% of last year's business. So, why was ABC worried?

ABC was already anticipating a 20% increase over last year due to its growing visibility in the market and the good work of its sales force. Adding the new customer would result in a total increase of almost 70%. (HINT: What would this growth do the business capacities - inventory backlogs, manufacturing space, and operating personnel?)

Two additional factors further muddied the water. The customer insisted on receiving a 45% discount (resulting in net contribution on the new business of 5%), their "normal" payment terms were 90 days (ABC normal terms were 2/30n45), and they wanted to start receiving shipments in 30 days (ABC production cycle times were 8 weeks).

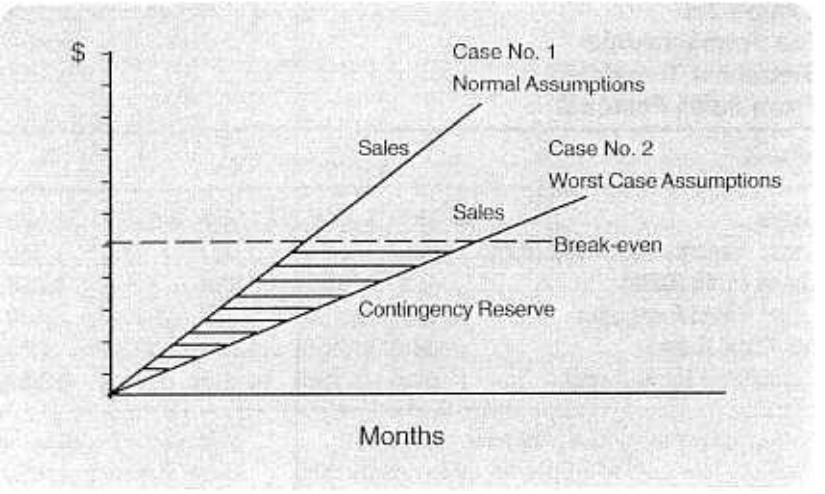
ABC management concluded:

We can't pass up this opportunity. It will increase our visibility significantly in the market. Doing business with such a big customer will be great for our company credibility. Our business will increase with our suppliers, permitting volume discounts. Finally, even though we recognize that the steep sales discount will reduce our margin on their business to 5%, it still pays its way.

The results:

Sales shipped the first order in 30 days to meet New Customer's requirements, and scheduled additional shipments at 30 day intervals. ABC was concerned that the first shipment go intact, so they back ordered 7 regular customers.

Exhibit 2-4
Determining Contingency Reserve



with different ways of constructing SALES FORECASTS.

Using these understandings, now you will continue these steps so that you can inspect the changes that you expect in your business month by month. This will show you the actual profit or loss which you can expect from your venture, and becomes your projected or pro forma income statement (Exhibit 2-5).

In our example, the business shows a loss for the first two months. This is typical for most start-up situations. In fact, it often takes longer than this to show a profit. It takes a while to develop your customer base and get established. It is also possible that your earlier expenses may be higher than they will be later on. You will have to gain some experience and learn what is necessary and important to the business, along with learning the most efficient ways of performing the various activities necessary to run the operation.

STEP 7: Cash Flow

The cash flow is the single most important part of the forecasting process for a new or proposed business, or for any business which is undergoing rapid change.

The *PROJECTED CASH FLOW* is the basis of your cash budget. It shows the *TIMING* of cash flows and enables you to ensure that you will have adequate cash reserves as well as working capital. For a new venture, or for a

STEP 7:
Cash Flow

CONTINGENCY RESERVE: The contingency reserve is the difference between reasonable and pessimistic assumptions which will show you the cash needed to cover the additional operating deficit.

Production entered new orders for material and supplies. Their major supplier was caught by surprise and back-ordered the additional amounts for 7 weeks on top of the normal 4 week cycle. ABC badly needed the supplies and agreed to pay a 10% premium. The additional lead was shortened to plus 3 weeks.

Production hired a 30% increase in new workers. They all required training and production slipped 20% during the training time. Quality slipped as well, and rejections and rework increased by 40%.

Production became backlogged, and in month two, sales back-ordered 10 regular customers in order to accommodate New Customer. Four of the regular customers were caught short with their customers for the second month in a row, and so canceled their remaining orders and re-sourced their business elsewhere. The business lost was full margin. Overall contribution slipped 15 points. Unnoticed, and compounded by the increase in supply costs, the decline in labor productivity, and the resultant lower composite contribution, break-even began to skyrocket!

Production, labor, and supply issues became even greater problems in month three. Meanwhile, the cash demands of the buildup were becoming severe.

Finally, the first receivable was due. A/R dutifully called New Customer when the first payment slipped 10 days, only to learn that New Customer was experiencing cash flow problems, and would pay in 120 days, not 90.

ABC was now officially and seriously in trouble.

After many difficult meetings with their bankers, many late night meetings with their accountants, and much internal discussion, ABC reluctantly concluded that they could not really afford New Customer. Fortunately for them, they reached this conclusion before they had lost more of their regular customers, and so, for the upcoming fiscal year, business growth remained flat, rather than experiencing the 20% increase they had earlier projected.

Great opportunity or great disaster, figure it out first. This agony was not necessary! How could this disaster have been avoided?

Using the **COMMON SENSE** Strategic Management System Forecasting Model of course!

That's only **COMMON SENSE**!

Sales Forecast

drives

Pro Forma Income Statement

drives

Pro Forma Cash Flow

Exhibit 2-5
Pro Forma Income Statement Translated From Sales Forecast

Month	1	2	3	4	5	6	Total (6 mo.)
Sales	$ 750	$1,125	$1,500	$2,250	$3,375	$3,750	$12,750
Less: Variable Expenses (40%)	300	450	600	900	1,350	1,500	5,100
Gross Profit (60%)	450	675	900	1,350	2,025	2,250	7,650
Less: Fixed Expenses	2,130	2,130	2,130	2,130	2,130	2,130	12,780
Net Profit (Loss)	(1,680)	(1,455)	(1,230)	(780)	(105)	120	(5,130)
Cumulative Profit (Loss)	(1,680)	(3,135)	(4,365)	(5,145)	(5,250)	(5,130)	

rapidly growing venture, the odds approach certainty that cash will flow out more rapidly than it comes in. This, of course, represents a common though paradoxical way to go broke. The difference between the cash inflows and the cash outflows must come from somewhere. If it is not available in the form of working capital or cash reserves, then you will simply run out of cash and go under, even though you are selling more and more, and even though these sales may be proceeding on a profitable basis.

Cash flow forecasting enables you to predict both the size and timing of this kind of temporary operating deficit. By adding to this figure a cushion for unexpected emergencies (Step 5), you can figure how much cash reserve you will need to remain solvent.

Assume that all of your sales are on credit, and that everyone pays their bill within the thirty day credit terms which you made available. (This typically does not hold true.) We can inspect the impact of these credit sales through the *CASH FLOW ANALYSIS* (Exhibit 2-6). In the Income Forecast, the business shows a profit in the third month and covers its losses in the fourth month. However, according to the *CASH FLOW ANALYSIS* (Exhibit 2-6), the business does not reach its cash break-even until the fifth month, and by the sixth month it still has not been able to cover its cumulative negative cash flows. This is a critical aspect of cash planning that many businesses simply ignore. Profitability does not necessarily equal liquidity. Consequently, businesses which are making profits may go out of business because they run out of cash. We know that such problems can be anticipated. If they are anticipated, they you can decide in advance what you are going to do about them.

Run your business - don't let it run you. This is COMMON SENSE.

Run your business - Don't let it run you

...it's COMMON SENSE

SUMMARY

FORECASTING is based on carefully reasoned assumptions, quantified in a systemic way to make your projections about what will happen in the future as accurate as possible. We describe *FORECASTING* as a seven step process based on a methodical application and assessment of available information.

By taking a systematic approach to forecasting, you gain a deeper knowledge and understanding of your business. The final product of your forecasting effort becomes your projected cash flow, the basis of the cash budget, which in turn is a primary tool for controlling your business.

The purpose of the forecasting process is twofold. It affords an excellent opportunity to review the past and it provides the best guide for analyzing and managing the type of future your business can have. Anticipating problems and avoiding them, rather than waiting until they arrive and then trying to deal with them on a reactive basis, is the essence of good business planning. Good business planning is a primary key to business success.

Common Sense!

Exhibit 2-6
Pro Forma Cash Flow

Month	1	2	3	4	5	6	Total (6 mo.)
Cash Receipts	$	$ 750	$1,125	$1,500	$2,250	$3,375	$ 9,000
Less: Cash Disbursements							
Variable Expenses	300	450	600	900	1,350	1,500	5,100
Fixed Expenses	2,130	2,130	2,130	2,130	2,130	2,130	12,780
Total Cash Disbursements	$2,430	$2,580	$2,730	$3,030	$3,480	$3,630	$17,880
Net Cash Flow	(2,430)	(1,830)	(1,605)	(1,530)	(1,230)	(255)	(8,880)
Cumulative Cash Flow	(2,430)	(4,260)	(5,865)	(7,395)	(8,625)	(8,880)	

COMMON SENSE WORKSHEET

BREAK-EVEN (B/E) CALCULATIONS & SALES ANALYSIS

CALCULATE BREAK-EVEN

Line		SAMPLE COMPANY			YOUR COMPANY	
1	I.	**Sales Forecast**	$1,200,000	I.	**Sales Forecast**	$
2	II.	**Variable Costs**		II.	**Variable Costs**	
3		Cost of Goods/Materials	420,000		Cost of Goods/Material	$
4		Direct Labor	168,000		Direct Labor	$
5		Payroll Taxes	20,160		Payroll Taxes	$
6		Factory Power	22,000		Factory Power	$
7		Freight-In	8,000		Freight-In	$
8		Freight-Out	11,000		Freight-Out	$
9		Truck Expense	7,200		Truck Expense	$
10		Equipment Maintenance	6,700		Other	$
11		Workman's Comp. Insurance	38,000		Other	$
12		Miscellaneous	19,200		Other	$
13		Total Variable Costs	$ 720,260		Total Variable Costs	$
14	III.	**Gross Profit**	$ 479,740	III.	**Gross Profit**	$
15	IV.	**Fixed Costs**		IV.	**Fixed Costs**	
16		Executive Salaries	$ 88,000		Executive Salaries	$
17		Administrative Salaries	124,800		Administrative Salaries	$
18		Rent (Mortgage Interest)	67,000		Rent (Mortgage Interest)	$
19		Other Interest	8,000		Other Interest	$
20		Legal & Accounting	4,200		Legal & Accounting	$
21		Property Taxes	1,800		Property Taxes	$
22		General Office Expenses	13,000		General Office Expenses	$
23		General Insurance	87,000		General Insurance	$
24		Depreciation	14,700		Depreciation	$
25		Telephone	16,800		Other	$
26		Travel	13,000		Other	$
27		Miscellaneous	-		Miscellaneous	$
28		Total Fixed Costs	$ 438,300		Total Fixed Costs	$
29	**STEP 1:**	Divide Gross Profit by Sales to show percentage relationship				
30		Gross Profit/Sales = Gross Margin as decimal % of Sales				
31	Gross Profit		$ 479,740	Gross Profit (Line 14)		$
32	Sales		1,200,000	Sales (Line 1)		$
33	Gross Margin as a decimal %/Sales		0.40	Gross Margin (Line 31/Line 32)		$
34	**STEP 2:**	Divide Fixed Expenses by Gross Margin as decimal % of Sales of B/E Sales Level				
35		Fixed Expenses/Gross Margin = B/E Sales Level				
36	Fixed Expenses		$ 438,300	Fixed Expenses (Line 28)		$
37	Gross Margin as decimal %/Sales		0.40	Gross Margin (Line 33)		$
38	Break-even Sales Level		$ 1,096,344	Break-even (Line 36/Line 37)		$

CALCULATE SALES NEEDED TO COVER NEW EXPENSE

39	I.	**New Expense**		I.	**New Expense**	
40		Computer System	$ 13,200		_____	$ _____
41	**STEP 1:**	Divide New Expense by Gross Margin as decimal % of Sales (as above) for additional sales				
42		needed to cover new expense				
43	New Expense		$ 13,200	New Expense (Line 40)		$
44	Gross Margin as decimal %/Sales		0.40	Gross Margin (Line 33)		$
45	Additional Sales Needed		$ 33,018	Additional Sales (Line 43/Line 44)		$
46	**STEP 2:**	Analysis - Add Additional Sales Needed to existing B/E Level to determine new B/E				
47	Present Break-even Sales Level		$ 1,096,344	Present Break-even (Line 38)		$
48	Additional Sales Needed		$ 33,018	Additional Sales Needed (Line 45)		$
49	New Break-even Sales Level		$ 1,129,362	New Break-even (Line 47 + Line 48		$
50	Sales Forecast (Projected Sales)		$ 1,200,000	Sales Forecast (Line 1)		$
	The new B/E is below the projected sales and so the company can afford to lease the new computers			Your Observations: _____ _____		

COMMON SENSE
Strategic Management Learning System

COURSE OVERVIEW

CS-1 Cash Flow
Controlling your cash before it controls you

CS-2 Forecasting
Understand where you want to go - then plan how to get there

CS-3 Management Control
Decide what needs to be done, who will do it, and how you will know when its done

CS-4 Target Marketing
The key to marketing success - focus, focus, focus

CS-5 Time Management
Time is an asset - once gone, it's gone

CS-6 Financing
Use and abuse

CS-7 Human Resource Management
The right personnel for the right reasons

CS-8 Inventory Control
Inventory control = profit control

CS-9 Marketing Communications
How much & why

CS-10 Credit & Collections
Easy to put out, hard to get back

CS-11 Strategic Analysis
The sum of the parts equal more than the whole

CS-12 Knowledge Management Systems
Turning people, process, and technology into knowledge

INFORMATION RESOURCES

REFERENCES

Economic Censuses
County Business Patterns, US Bureau of the Census, Washington, DC.
Reports on monthly sales figures and trends for various industries.

Value Line Industry Review (Monthly)
Summarizes several hundred industries with projections for next 3-4 years.

Industry Norms & Key Business Ratios
D&B Information Services
Financial norms and business ratios for over 800 lines of business development.

Financial Studies of the Small Business
Financial Research Associates, Winterhaven, FL
Financial ratios for a wide range of smaller firms

Analyzing Financial Statements
American Bankers Association, Washington, DC
An informed and useful approach to understanding financial statements.

On-Line Resources:

SEC On-Line
All current 10-K's, 10-Q's & 20-F's as filed with the SEC - Search through LEXUS or DIALOG.

National Automated Accounting Research System
Financial Statements from more than 4,200 annual reports - Search through LEXUS or DIALOG.

Key-Word Search
Name of your trade association
Your SIC code 4 digit number
Your type of business by name

Internet Addresses:

Wall Street Journal On-Line
http://www.wsj.com

GNN Personal Finance Center
http://www.gnn.com/gnn/meta/finance/

Federal Government Data Bases
http://www.fedworld.gov/

COMMON SENSE is a complete learning system...

COMMON SENSE is a Strategic Management Learning System (SMLS) designed to help you help yourself.

The SMLS consists of twelve management topics, each presented in a single workbook. Each workbook focuses on a critical strategic area of business management in a way designed to strengthen and develop your skills. The twelve workbook topics represent the same core components offered in a contemporary business management degree program, yet COMMON SENSE delivers this knowledge in a format that you can use now. Unlike complex software programs, voluminous text books and manuals, you can pick up COMMON SENSE any time, anywhere and learn efficiently. When applied over a period of time, this knowledge will provide an education far more enduring and beneficial than any number of intensive workshops or seminars, and at a fraction of the cost. It will stick with you.

COMMON SENSE is designed to help you think systematically about your business management processes, plan your course rather than drift at the mercy of the fates, and take active control over your future rather than react to whatever comes along. You are the person best qualified to make important decisions about your business responsibilities. You're investing the time, effort and money to succeed. You provide the effort, COMMON SENSE provides the proven knowledge for sound business management practices.

COMMON SENSE delivers the conceptual framework, practical knowledge, applicable worksheets, real-world case histories and qualified references to ensure your learning. Most importantly, this learning system provides proven management techniques that will help you and your business succeed and prosper. Remember the old adage: Give a man a fish, you've given him a meal - but teach him to fish and you've fed him for a lifetime. COMMON SENSE believes the moral of this story is still valid. COMMON SENSE will help you help yourself.