Introduction

It is easier to reach a goal if you can break it down into a series of well defined sub-goals. Sounds simple enough but a surprising number of people believe the way to make a company profitable is to sell as much as possible and spend as little as possible and hope what is left over is enough. Such a plan, if one can call it that, will result in a lot of frenetic activity and few results.

The first thing a company has to do is to make a realistic assessment of where it is. This is done by comparing a company’s performance to that of its best competitors. The company should then make a sober assessment of what its goals should be for three months, six months, a year, two years and three years.

If a company is on the brink of bankruptcy or in bankruptcy, it might seem imprudent to invest time and energy thinking about what the company should look like in a year or three years. But, many companies have gotten in trouble because they have sacrificed long term planning and investments to meet short term goals. So as with everything else in life, the best path is a balance between working short term goals and investing in long term performance.

Business Model

The key to understanding anything at a deep level is to build a model of it. This is true of an economy, a ship, airplane, a building, a political system or a business. A model identifies key elements and their relationship to one another. One advantage of building a model is that it forces one to prune away a lot of detail so the big picture comes into bold relief. Another advantage is that a well thought out model shows how each element impacts every other element. This in turn will help focus limited time and attention on areas where it will have the maximum payoff. A model can be used to avoid false starts and wasted effort. It is far more efficient to try plans in a model to see whether they will work than it is to implement a strategy only to find out it is doomed to failure after the commitment of substantial time, money and material.
Adding Realism to the Model

The most important thing in any turnaround is to be realistic about the time, money and resources available and to be equally realistic about the goals that can be achieved over the relevant time horizon. How do we know what is reasonable and what is just a fantasy? The answer is to look at the company’s best competitors and analyze their models. If the sales of a company’s best competitors are not increasing year to year, as for example with most newspapers, it is unrealistic for us to assume we can grow our way to profitability. The company must find some other route to profits. If cost of goods sold is 80% of sales for a company’s best competitors, it is unrealistic to assume it can cut cost of goods sold to 60%.

Realistic turnaround goals start with a thorough analysis of competitors’ sales, costs and growth trends. Realistic goals do not necessarily mean goals should be set to industry averages. Goals may stretch competitive performance by a reasonable amount.

Reverse Engineering Turnaround Goals

Many of the elements needed to build a realistic business model and reverse engineer a turnaround plan have already been discussed in chapter one. We just have to put them together.

The amount needed to cover overhead, financing costs and profit is essentially a break-even analysis question. When Sergio Marchione was hired to restructure Fiat in 2004 he found that engineers were designing cars on the assumption that they could make and sell 300,000 per year, far more than their actual sales. He insisted that they redesign cars and production methods to be profitable with half that number of sales. In effect he ordered his engineers to cut their break even point in half (Kahn and Power 2006). The traditional break-even formula given in Eq. (2.1) sets profits equal to zero.

\[
\text{Profits} = \text{Sales} - \text{Variable Costs} - \text{Fixed Costs} \quad (2.1)
\]

This equation can be adapted to model restructuring goals. For example Other overhead and Financing costs replace fixed costs. Other Overhead is defined as Overhead less selling and marketing costs. Cost of Goods Sold and Selling and marketing costs can be used to estimate variable costs. With these substitutions, and assuming profit equal zero in a break even situation, Eq. (2.1) can be re-written as Eq. (2.2).

\[
0 = \text{Sales} \times (\text{Gross margin} - \text{Selling cost%}) - \text{Other overhead} - \text{Financing costs} \quad (2.2)
\]

Moving the fixed costs to the left of the equal sign gives Eq. (2.3).

\[
\text{Other overhead} + \text{Financing costs} = \text{Sales} \times (\text{Gross margin} - \text{Selling cost%}) \quad (2.3)
\]
Dividing both sides by \((\text{Gross margin} – \text{Selling cost\%})\) gives Eq. (2.4).

\[
\text{Sales} = \frac{\text{Other overhead} + \text{Financing costs}}{\text{(Gross Margin} – \text{Selling cost\%})}
\] \hspace{1cm} (2.4)

No company is going to hire a CEO or pay a turnaround consultant to get the company to break even, that is to say zero profit. So we must include a target profit in this model. We can do this by treating profit as another “fixed cost,” which it is from the point of view of management or the turnaround team. Therefore we modify Eq. (2.4) to include Target Profit (TP) as another “fixed cost” along with Other overhead (OO) and Financing Costs (FC).

At this point we are going to make one more modification to (2.4). Instead of the equation equaling Sales, we are going to say it equals Required Sales as shown in Eq. (2.5). Required Sales are the sales necessary to cover Other overhead, Financing costs and Target profit given a company’s Gross margin (GM) and Sales cost\% (SC).

\[
\text{Required Sales} = \frac{\text{OO + FC + TP}}{\text{(GM} – \text{SC})}
\] \hspace{1cm} (2.5)

For example, suppose Gross margin is 32\%, Selling cost\% is 6\%, Other overhead is $950,000, Financing Costs are $200,000 and the target profit is $100,000. What sales are required sales?

\[
\text{Required Sales} = \frac{\$950,000 + \$200,000 + \$100,000}{(32\% – 6\%)} = \frac{\$1,250,000}{26\%} = \$4,807,692
\]

If Forecast Sales are equal to or greater than $4,807,692 the company should be able to meet its profit target. However, if sales are less than $4,807,692 the company will fail to meet its profit target.

Given Eq. (2.5) it is possible to reverse engineer restructuring goals. The left side of the equation is the sales required to cover all costs considering the relationship of costs to one another. Of all the elements in the equation, sales is the element that is usually the most difficult to predict.

If actual sales fall below the Required Sales, the restructuring will be unsuccessful. So, if we have a good sales forecast, we can figure out what other overhead, financing costs, gross margin and sales cost\% have to be to reach the target profit.

Subsequent chapters of the book discuss detailed methods for reaching the other overhead, financing, gross margin and sales cost\% goals of this model. The objective of this chapter is to set broad restructuring goals for the turnaround team.

Suppose an honest forecast of sales was $3,828,000. Given the costs, gross margins and sales cost\% above, the company would fail to reach its profit target in a
significant way because $4,807,692 of sales was required under the current cost structure whereas only $3,828,000 was forecast.

What is the solution? Other overhead is usually the easiest cost to cut because other overhead dollars are not used to make the product or deliver the service and they are not used to sell the product or service. Improving the Gross margin by reducing the cost of goods sold is usually the next easiest thing to do. Selling cost% is often difficult to reduce because one does not want to risk losing sales. Reducing financing costs is usually the most difficult cost to cut in the short run, but it can be done.

So, suppose we set the goal of cutting overhead by 10% from $950,000 to $855,000 and increasing gross margin by 1% from 32 to 33%. Would achieving those goals be sufficient to meet profit targets? Plugging these values back into Eq. (2.5) gives the following.

\[
\text{Required sales} = \frac{855,000 + 200,000 + 100,000}{(33\% - 6\%)}
\]
\[
= \frac{1,155,000}{27\%}
\]
\[
= 4,277,778
\]

Since required sales of $4,277,778 is still greater than forecast sales of $3,828,000, this first estimate of the restructuring goals are inadequate. Clearly more radical change is required to reduce required sales to less than forecast sales. The answer is to reexamine every aspect of the cost model to see where more cuts should be made.

This process of working the model, reshaping it, and trying various combinations of cuts is critical to setting achievable restructuring goals. One might expect to have to rework the model a half a dozen times until all elements come together to achieve the desired result.

Just to be clear, reducing target profit (TP) is not an option. Target profit is the end game. A CEO or restructuring consultant willing to sacrifice target profit is frankly not needed. The board of directors is likely to yell, “NEXT!”

**Goals Must Be Realistic**

When a company is in trouble, it is much more important to be realistic than to paint a pretty picture for the board of directors or turnaround committee.

Factors other than sales inform targets for other overhead, gross margin, selling costs and financing costs. Competitor performance is key to setting realistic goals (Whitney, 1996, p. 87). For example, if a company’s best competitor has a gross margin of 30%, it is probably unrealistic to set a target gross margin of 40%. Likewise if the Selling cost% of the best competitor is 6%, it is probably unrealistic to set a 4% goal for Selling cost%. For a turnaround plan to work, it must be rooted in reality.
**Forecasting Sales**

It’s always imprudent to assume sales growth will rescue a distressed company. Reasons include: lack of money for selling and marketing expenses and the fact that distress is usually accompanied by production, quality, scheduling and customer service problems.

Most troubled companies fall into the trap of forecasting the sales they need which creates a misleading picture. A better approach is to have sales and marketing create a detailed sales forecast down the hall and around the corner from where the restructuring team works. Sales and marketing should have no information on Required Sales, target profits or costs. A sales forecast should be realistic and independent of what is needed to meet restructuring goals.

Forecasts that are based on facts and detail are more likely to be realistic than forecasts based on wishful thinking and good intentions. Ideally, a sales forecast would identify the number of potential customers in each territory, their names, how much they purchased last year as well as expected future sales. Expected sales should be tempered by information about customers the company has lost or is about to lose as well as objections they have to the company or its products. This sales forecast should also factor in new sales territories and territories that have been abandoned.

Other factors that should be considered when developing a sales forecast include:

(i) Whether customers will be reluctant to deal with a troubled company,
(ii) The accuracy of prior sales forecasts, and
(iii) Whether the sales forecast is consistent with historical and industry trends.

A probabilistic sales forecast is better than a forecast that predicts an exact dollar value of sales.

**Probabilistic Sales Forecasts**

No one can forecast sales with 100% accuracy. Sales forecasts are usually an expected value or a consensus number. Assume sales are normally distributed around the forecast value, which is generally a good assumption absent information to the contrary. That means that there is about a 50% chance that the sales forecast will be exceeded and a 50% chance that actual sales will fall short of the forecast. If the turnaround team designs goals to fit expected sales they have 50% chance that the turnaround will fail.

In reality, it is impossible to design turnaround goals that will be successful 100% of the time. The issue is how much risk the turnaround committee or board of directors is willing to tolerate.

Suppose a company forecast expected sales of $3,828,000 with a standard deviation of $100,000. What sales forecast should be used in planning the turnaround?
Figure 2.1 is a visual representation of the sales distribution in which $3,828,000, the expected value, is in the middle of the distribution.

Assuming the sales distribution is normal, the upper and lower tails will be symmetrical. We need the turnaround committee to agree on the amount of risk they are willing to tolerate in sales falling short of the plan goal or on the other hand the amount of confidence they want in the plan’s sales goal. The amount of risk they are willing to tolerate is represented by the area in the lower limit tail probability. The confidence is 100% of the area under the curve less the amount of risk the turnaround commit is willing to take. Equation (2.6) along with Table 2.1. can be used to determine the sales we should use as Required sales for purposes of the restructuring plan.

\[
\text{Low limit of sales} = \text{Expected sales} - Z^*\sigma \tag{2.6}
\]

\(Z\) values correspond to the area between the upper and lower tail of the distribution as shown in Table 2.1.

Suppose the turnaround committee demands a 90% confidence that the sales target will be met. That means they are willing to tolerate a 10% risk that the sales goal will not be met. To achieve this goal, the area under the left tail of the curve must
contain 10% of the area, which is the same as saying it contains 10% of the total probability. Since we assume a normal distribution, the area in the upper tail is also 10%. The area between the two tails is 80% (100% – 10% – 10%).

The closest estimate for 80% in the above table is $Z = \pm 1.28$. Select the negative $Z$ value to find the boundary between the lower tail limit and the central area of the curve. Putting our values into Eq. (2.6) yields

\[
\text{Lower limit} = 3,828,000 - 1.28 \times 100,000
= 3,828,000 - 128,000
= 3,700,000
\]

So given a sales forecast of $3,828,000 a standard deviation of $100,000 and the turnaround committee’s risk tolerance of 10%, the restructuring plan should design for sales of $3,700,000. If this is less than Required Sales as defined in Eq. (2.5) the restructuring plan goals must be modified by reducing overhead, financing costs, cost of goods sold and sales and marketing costs until Required Sales are less than $3,700,000.

**How Sensitive is the Business Model to Small Changes in Assumptions?**

Forecasts are never perfect, so it is only prudent to test the sensitivity of a business model to small changes in assumptions. Assumptions are things like the Gross margin, Selling cost%, Other overhead and Financing costs.

Assume that Gross Margin is 35%, Selling cost is 6%, Other overhead is $750,000 and Financing Costs are $200,000 and the target profit is $100,000. What sales are required to break-even? Applying Eq. (2.10) we find.

\[
\text{Required Sales} = \frac{750,000 + 200,000 + 100,000}{35\% - 6\%}
= \frac{1,050,000}{29\%}
= 3,620,690
\]

If Forecast Sales are $3,700,000 the company should surpass break-even with its existing sales/cost structure. Suppose margins deteriorate by 2%, and Selling Costs increase by 1%, what then?

\[
\text{Required Sales} = \frac{750,000 + 200,000 + 100,000}{33\% - 7\%}
= \frac{1,050,000}{26\%}
= 4,038,462
\]
With forecast sales of only $3,700,000 the model indicates the company will lose money. So what is the solution to this high level of sensitivity to changes. First, the restructuring team must monitor gross margin and selling cost% very closely. Second, the restructuring team should design in larger safety margins by planning to cut other overhead, financing costs and selling cost% and increasing gross margin more than needed to drive required sales below forecast sales.

**Constraints on the Model**

Consider again the facts we started this exercise with (other overhead of $950,000; financing costs of $200,000, target profit of $100,000, gross margin of 32%, selling cost% of 6% and forecast sales of $3,700,000. Suppose, because of contracts and other reasons, other overhead can only be cut to $850,000 in 1 year. How much improvement is needed in gross margin to meet goals? To answer that question we again use Eq. (2.5) but replace required sales with forecast sales to give Eq. (2.7).

\[
\text{Forecast sales} = \frac{\text{OO} + \text{FC} + \text{TP}}{\text{GM} - \text{SC}} \tag{2.7}
\]

\[
$3,700,000 = \frac{$850,000 + $200,000 + $100,000}{\text{GM} - 6%}
\]

\[
$3,700,000 \times (\text{GM} - 6%) = $1,150,000
\]

\[
$3,700,000 \times \text{GM} - $222,000 = $1,150,000
\]

\[
$3,700,000 \times \text{GM} = $1,372,000
\]

\[
\text{GM} = \frac{$1,372,000}{$3,700,000} = 37.1\
\]

Applying algebra, it can be found that gross margin (GM) must improve to 37.1% which means COGS, the cost of producing the product or providing the service must be cut from 68% of sales to 62.9% of sales. While this is difficult, it has been done.

A COGS% of 62.9% on sales of $3,700,000 translates into a target production budget of $2,327,300. When assigning goals to turnaround team members, it is easier for them to visualize goals in terms of dollars than as a percent of sales.

Suppose the company’s best competitors in its industry have a gross margin of only 36%. Then the company should take another look at selling cost% and financing costs to see what those goals would have to be in order to make the model work. Equation (2.7) could be used again, but this time one might set gross margin to 36%, other overhead $850,000, financing costs $200,000, and target profit at $100,000 and solve for a target selling cost%. If reducing selling cost% seems unfeasible, the turnaround team should reexamine other elements of the model until there is consensus on goals for various components of the restructuring model. Once those
goals are in place the team can start searching for ways to achieve specific goals in earnest. Before they such goals are agreed the turnaround team is flying blind.

**Selling and Marketing Costs Not Detailed**

Suppose selling and marketing costs are not broken out as a separate line item? As a practical matter, when doing an actual restructuring, you should have access to enough accounting detail to pull together total selling and marketing costs. These costs might be scattered across a dozen different accounts in different departments but it can be done. But if competitors’ selling and marketing costs are not broken out, it will be difficult to determine whether the turnaround goal for a Selling cost% is realistic. In that situation, the model can be adapted by treating Overhead as an undifferentiated mass which includes both selling costs and other overhead. This gives Eq. (2.8). All the other variables have their usual meaning.

\[
\text{Required Sales} = \frac{\text{OH} + \text{FC} + \text{TP}}{\text{GM}}
\]  

(2.8)

Suppose, for example, suppose Gross margin (GM) is 33%, Overhead (OH) is $1,032,692, Financing Costs (FC) are $200,000, Target Profit (TP) is $100,000. What are Required Sales?

\[
\text{Required Sales} = \frac{\text{OH} + \text{FC} + \text{TP}}{\text{GM}} = \frac{$1,032,692 + $200,000 + $100,000}{33\%} = $4,038.46
\]

The methodology for setting restructuring goals would then proceed in the same fashion, setting goals for various cost components and testing their reasonableness before making them restructuring goals.

**Applying the Model**

Once the turnaround team has a model that meets the profit target, it is in a position to assign responsibility to team members. Some team members will be deployed looking at overhead expenses; others will be deployed looking at the costs of goods or services sold. Some will be deployed to examine financing or selling and marketing costs. The goals of each team member will be to bring their costs in line with the parameters of the turnaround model.

This model can also be used beyond the first year of restructuring to guide the company to superior performance in a disciplined way. A significant advantage of
reverse engineering company goals rather than building up budgets to see what profit is left over is that reverse engineering sets expectations managers can work toward. Budget processes tend to start with the departmental needs with profit seen as a residual. Reverse engineering places profit goals in the center of planning and decision making.

Conclusion

A macro level model which considers factors such as sales, gross margin selling and marketing costs, financing costs and overhead can be used to set realistic restructuring goals. Does Required Sales exceed Forecast Sales? If so, the business model must be rethought. Unlike many problems it is not enough to throw a handful of numbers into an equation and turn a crank. The real world is much more complex and solutions usually require multiple iterations to arrive at a realistic solution.

Such a model allows approaches to be tried on paper before resources are committed. Reverse engineer turnaround goals so specific responsibility with specific targets can be assigned. A model also helps define criteria for success and can be applied at the division or subsidiary level to identify divisions or subsidiaries that cannot be saved.

References

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