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Economic Priniples for Profit Planning

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ECONOMIC PRINCIPLES FOR PROFIT PLANNING

by

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Profits are not an economic fact of business, but are an economic necessity if one is to remain in business. Profit planning is a requirement for business organizations irrespective of size or nature. Profits are not insured by planning because often unforseen changes can eliminate profits even with proper planning. At times there will be excess profits unforseen by plans, however, most successful business organizations plan for profits.

This paper covers some of the economic principles involved in profit planning. The mechanism used by different firms will be of varying complexities but each has elements in common. In some organizations the planning process is much more formalized and elaborate than in others, however, in all cases management must continuously appraise the firm as to its current status and what they want the firm to be. To ascertain the above management needs answers to several questions:

1. Does the firm have competitive advantages?
2. What is the firm's public image?
3. Who is the competition and what is their status?
4. What is the general economic environment?
5. What is the firm's potential market area?

The above list includes mostly elements external to the firm, however, an assessment of these external factors is one essential element in profit planning (3).

Profit planning has elements that encompass varying lengths of run. Investment in a new processing facility for example requires longer run profit planning than a decision of whether to custom clean seed in a given season. The discussion below will center on principles that effect profits within a given year. The same basic techniques can be applied to longer term elements of business planning.

What are some benefits of profit planning?

1. Helps management understand its own business.
2. Provides a means of measuring business performance.
3. Provides a mechanism for analyzing unfavorable turns and allows for quicker action of a corrective nature.
4. May hold the key to a firm's survival (3).

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Profit Planning

To forecast profits a firm must estimate future revenues and costs. Revenues are a function of sales volume, product mix, and distribution channels. Costs are affected by raw material cost (seed from farmers or other sources), processing, storage, handling, distribution, labor, and overhead. Profit planning contains elements of sales forecasting, cost analysis, profit forecasting, and break-even analysis.

Sales Forecasting

Sales forecasting is a must to estimate revenues, however, it is a very difficult exercise. The seed business has elements that make it even more difficult than some other businesses. Take soybeans for example, the weather during the planting season will affect the demands for different varieties of seed even though one has made a fairly accurate assessment of total demand for soybean seed. Changing expected price relationships among products competing for the same land resources (i.e., cotton and beans) will not only affect sales but also affect sales outlook for other inputs such as fertilizers, pesticides, insecticides, etc. Therefore, one has to plan as well as possible for unforseen changes. A logical place to begin planning for sales is on past records and experiences. For example, the amount of fall and winter land preparation in a given area may have an affect on the variability in varieties used during a given season. Planting intentions and expected prices in the futures markets will help give indications as to expected product demands.

One must be aware of the following in forecasting sales:

1. Geographic boundaries or sales area for one's firm.
2. Potential customers and expected total volume potential in the area.
3. Actions of competitors in the area.

In addition to the above general conditions a firm needs to analyze some other factors that will effect sales:

1. Degree of advertising and promotion due by one's firm.
2. Shifts in types of farming in your area.
3. Changes in technology.
4. Prices and availabilities of substitute commodities.

After reviewing all factors, management should estimate sales potential. In addition, managers should try to estimate a range of potential sales under different probable situations.

Cost Analysis

Many firms are often sales and output conscious and not cost conscious. If one is looking for money on each unit of product sold, losses can't be offset by increased volume. "Bigger is better" may not be true in all cases, however, more often than not there are economies

to increasing the size of one's operation. Any planned expansion should be analyzed to determine its effect on costs. I am reminded of a friend who expanded his sales volume through added services in several areas of his business. However, the technical expertise needed to increase volume in one area increased cost more than profits. Lucky for him, by planning and proper record keeping he was able to isolate the profitable portions of added services.

As with the example above most firms selling seed are either multi-product or multi-service firms. Most firms collect costs in the form of accounting costs. These costs are invaluable to a firm, however, they often do not provide adequate information in the decision making process. Accounting costs are often misleading because of arbitrary allocation of overhead. Too often, too many of the product specific overhead costs are lumped as general overhead. There are several methods of assigning overhead costs in a multi-product form, none of which is totally satisfactory. Some methods used in allocating are direct labor, machine hours, percentage of total sales, warehouse or shelf space. There is no scientific method of allocating these costs, however, it should be pointed out that if a large portion of costs are not product specific, the paper profitability of specific products can be significantly altered due to the method of allocation. For example, let us look at using percentage of total sales in a seed operation selling soybeans. Also assume that seed prices at $8.00 per bushel in year one and $13.00 per bushel in year two; and the margin above product specific cost of $2.00 per bushel each year. It can be easily seen that the soybean seed section of a business selling multiple products would not appear to be as profitable in the year of high prices even though the gross margins would remain the same. Examples of similar problems could be shown for each of the other methods used, however, it is beyond the scope of this paper. What is important, however, is that one be aware of the shortcomings of the method he chooses in allocation of overhead costs and keep this in mind when making plans and decisions about specific sections of the business. For those of you who do not make these decisions but are often affected by them it behoves you to know the method by which these decisions are made and their strong and weak points (3).

As pointed out accounting costs pose problems to decision makers. Which costs are the most appropriate? Anticipated future costs would be relevant for planning purposes as well as some other cost concepts. When planning for profits the opportunity cost concept becomes relevant. Opportunity cost defined is "The return the resource can earn when put to its best alternative use" (1). When planning for profits, especially if one is planning for expansion, the opportunity cost concept becomes relevant especially if the supply of input factors is limited. For example, ability to get contract growers for a specific type of seed one would like to expand. The opportunity cost concept should be a constant reminder that alternatives should be considered.

Probably the cost concepts that most of us are familiar with are fixed cost and variable cost. Defined these are: Fixed Cost-Costs that do not vary with output (depreciation on buildings, machinery and equipment, interest, insurance, property taxes, and salaries. Variable Cost-Costs that change with changes in volume (labor, fuel and power,

repairs associated with daily operations, packaging, etc.).

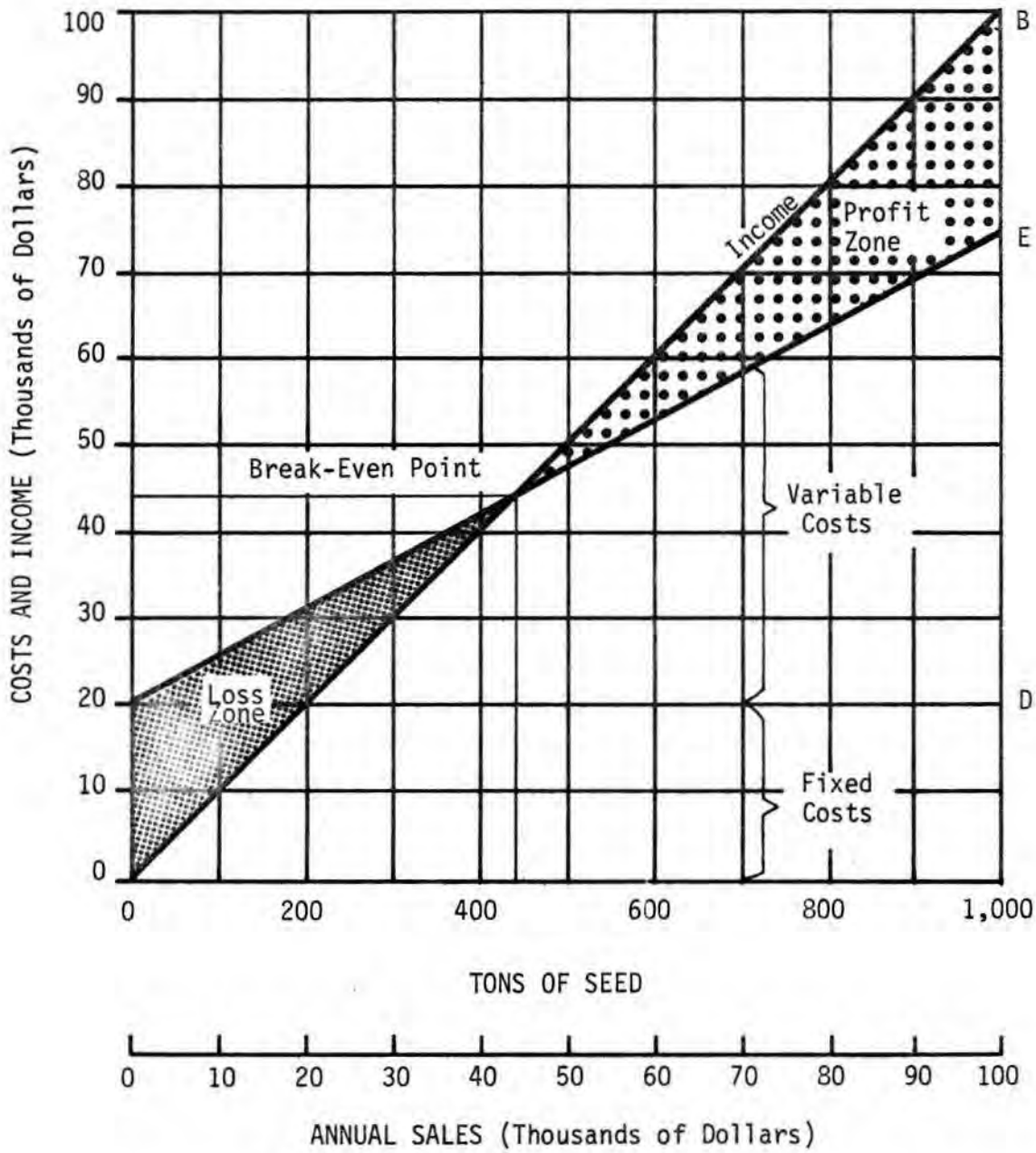
The distinction between fixed and variable are not always hard and fast. Given enough time all costs could become variable. It is important to consider these costs separately in decision making since often short run decisions based on total cost would lead to different decisions than if fixed and variable costs were considered separately. For example, the decision as to whether or not to add the service of custom cleaning to an operation would be biased toward not including the service if total cost were used as the criterion for the decision. In a seed processing operation the stages are: Receiving, Drying and Bulk Storage, Processing, Bagging and Bag Storage. A 1973 study showed that total annual operating cost per bushel of capacity for a 150,000 bushel capacity plant was approximately $.93 per bushel. When considering an in-out custom cleaning operation the relevant cost to consider would be receiving, processing, and bagging. These costs accounted for 53.5 percent or $.50 of the $.93 per bushel. Therefore, one can see that if the going rate for custom cleaning in an area is $.60 per bushel, management would be led to different decisions based on total cost (2).

It should be pointed out that cost should be kept in as much detail as possible so that decisions such as the one just described can be made. Firms should allocate cost not only to the respective products or services but each unit should have as detailed a breakdown as possible so that decision makers could make the most informed decision possible. Granted there are costs involved in obtaining a detailed breakdown within the firm, however, the opportunity cost of not having proper breakdown of costs may be far greater in foregone earnings due to limited information for decision making.

Assuming one has done an adequate job of demand forecasting and cost, another tool in profit planning would be break-even analysis. The greatest value of break-even analysis is that it should be the level of operation that is required before one enters into the profit zone and takes into account impacts on profitability from varying fixed or variable costs as well as variations in product prices. Break-even charts have some limitations, however. First, they assume linear cost and revenue functions. Second, the break-even approach is best suited to one product. Third, there is the aforementioned problem of separating fixed and variable costs. One should be reminded that break even analysis is only as good as the data going into the analysis. An example of a break-evan chart is shown in Figure 1.

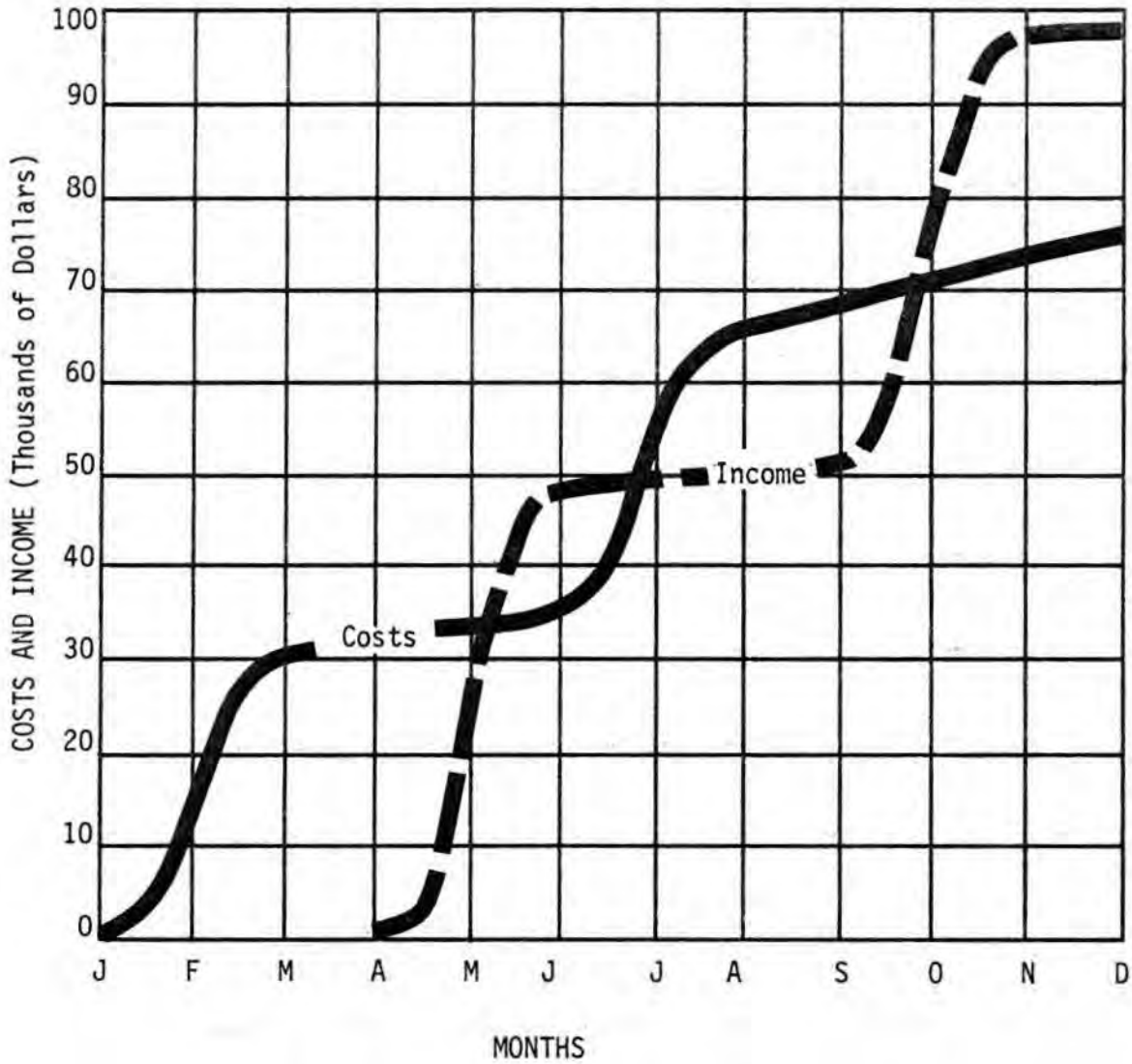
Break-even analysis is a tool best used along with an operating budget showing cash inflows and outflows for the time period under consideration. After a budget is prepared then a cash flow chart as shown in Figure 2 should be prepared to estimate capital needs during the planning period.

The list of tools presented above is not very detailed nor exhaustive. I hope, however, that I have presented some information that will add to your appreciation for planning. As stated, profits are not an economic fact of business. The importance of planning and record keeping in your business or segment of the business for which you are responsible cannot be overemphasized.



Variable Costs ($/year)	$20,000
Fixed Costs ($/Ton)	$55
Sales Volume (T/year)	0-1000
Sale Price ($/Ton)	$100

Figure 1. Example Break-even Chart.



Cash Flow ($000)	-15	-31	-33	-9	+14	-1	-17	-18	+5	+28	+27	+25

Assumptions

Indirect Costs	$20,000
Direct Costs	$55,000
Sales Volume	1000T
Sales Price	$100/T

Processing Periods

Jan-Feb
June-July

Sales Periods

April-May
Sept-Oct.

Figure 2. Example Yearly Cash Flow Chart for Seed Operations.

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