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Cost Control and Pricing Methods For The Small Business

Mikel S. Brantley

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COST CONTROL AND PRICING METHODS FOR THE SMALL BUSINESS

BY

Mikel S. Brantley

B.S. in Management, U.S. Air Force Academy, 1978

An Independent Study

submitted to the Faculty of the

University of North Dakota

in partial fulfillment of

the requirements for the

Degree of Master of Business Administration

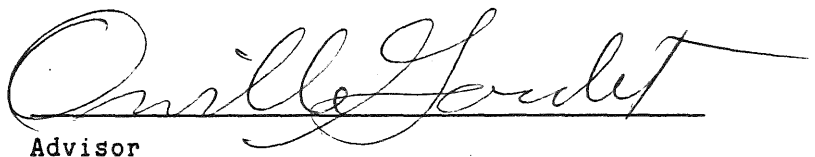
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This independent study submitted by Mikel S. Brantley in partial fulfillment of the requirements for the Degree of Master of Business Administration from the University of North Dakota is hereby approved by the Faculty Advisor under whom the work has been done.

A handwritten signature in cursive script, reading "Anille Gerdet", written over a horizontal line.

Advisor

PERMISSION

Title: Cost Control and Pricing Methods for the Small Business

Department: School of Business and Public Administration

Degree: Master of Business Administration

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ACKNOWLEDGEMENTS

I would like to express my sincere appreciation to my wife, Kris, who has been so supportive of me while pursuing my academic goals. She has been my number one fan as well as a true friend and companion.

I would also like to thank the AFIT faculty and staff for all the help they've given me while working on my Masters degree. Special thanks go to Dr. Goulet and Mrs Parish for their help and guidance in preparing my independent study.

Lastly, I appreciate all the love, encouragement, and support my mother and family have given me throughout my education.

ABSTRACT

Cost and Pricing Methods For The Small Business

Mikel S. Brantley

The University of North Dakota Graduate Center, 1988

Faculty Advisor: Dr. Orville Goulet

An important part of the American dream is the ability to start and own a business. Hundreds of thousands of new firms are started each year. Small business is the heart of the American economic system and essential to its overall well-being. The failure rate of small businesses, however, is a major concern to businessmen and government at all levels. It causes economic losses to both individuals and taxpayers through increased business loan rates and the costs of bankruptcy filings. A lack of management education is often cited as a direct cause for business failures. Chief among management problems is failure to control costs and inadequate pricing decisions. Cost control and pricing decisions for larger firms have evolved almost to the level of a science with the widespread use of sophisticated computer based management information systems and managerial accountants. The small business world, it seems, has not yet been able to tap this pool of information on business techniques, despite the ease in doing so. Even the use of microcomputers and the analytical capabilities they provide has not been able to stem the tide of failures. Fundamental business errors are still being made.

CHAPTER I

INTRODUCTION

Despite the great advances that have been made in recent years in providing management with improved management control tools-such as computers, data processing, and operations research-a need exists for reorientation of management to some of the fundamental concepts of management control.¹

This excerpt is from the introduction to a management text written in 1967. Great advances in management and decision making have been made in recent years. The information explosion brought about by the wide use of computers and data processing techniques, particularly those provided by microcomputers, is quickly altering the way businesses make decisions. It is no longer unreasonable for a manager in a large company to ask for a complete analysis of his options for even the most modest decisions. This is not to say the manager is letting a computer make the decisions for him. The computer can only help him accomplish nuts and bolts analyses. The manager of today must make more decisions and make them faster than ever.

A problem that arises with the information explosion is that the little guy must now be as sophisticated in his decision making as the big corporations with which he must often deal. The small businessman of today must apply the management techniques used by larger companies to make business decisions and control the allocation of scarce

¹Myron M. Miller and Robert R. Viosca, Using Direct Costing for Profit and Product Improvement (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1967) p. 1.

resources. He must understand and use quantitative techniques to provide feedback on the health of the business and the performance of assets in producing profits for the business.

The competitive business environment existing today is based on the proposition (certainly not an original one) that whomever sells the right product or service at the right price makes the profit. As such, any business wanting to be competitive must be able to adequately determine the cost and pricing relationships existing for its particular products or services.

Another aspect of our competitive business environment is the requirement for efficiency. The difference between profit and loss is getting ever slimmer. Being competitive today means being "lean and mean". Here again the small businessman needs to use the techniques the big boys use to gain and maintain peak efficiency. It does not take a huge staff or large amount of expensive equipment to gain the edge. This is best illustrated by an example from the authors own experience.

The author, as a part of his graduate studies, performed a research project on a fast food franchise, the name of which is omitted for the sake of confidentiality. The owners of this franchise, in an effort to improve profitability and halt the misappropriation of inventory by employees, installed an automated management information system in each of the five franchises it owned. The equipment installed at each franchise consisted of a computerized cash register at each order takers workstation along with a computer modem

to transmit information to a central microcomputer. This simple installation was transparent to the employees (a cash register was needed anyway). The system provided sales information broken down by product and time of day. It also provided information on the level of activity at any given time of the day. The cash registers served as an employee time clock and a means to account for inventory usage. The inventory control function served as a formidable deterrent that virtually eliminated employee theft at the franchises.

The manager of each restaurant was provided with a complete analysis of each days activity within a few days. With an accurate and timely activity analysis in hand, informed decisions could be much more easily made. Solutions of this type to common management problems at the small business level are available for the asking. The small businessman willing to use techniques like the one described here cannot help but have a better chance of survival.

STATEMENT OF THE PROBLEM

One of the cornerstones of the American capitalist dream is owning and operating your own business. Americans want to be their own bosses. This dream translated to the establishment of almost 242,000 new businesses in 1986 and the incorporation of another 702,000 existing businesses.² They range in size from very modest retail and service businesses to multi-million dollar capital intensive outfits

²U.S. Small Business Administration, The State of Small Business, Report of the President, 1987, p. 7.

typified by the upstart computer companies in California's Silicon Valley. However, the vast majority of these new small businesses are established in the retail goods and services industries.³ With all the new businesses came almost 143,000 business failures.⁴

Studies have indicated that over 50% of small businesses fail in the first five years. Management problems are cited as a cause in over 92% of the cases with cost and sales/pricing problems accounting for 62%.⁵ The purpose of this study is to determine the kind of problems the small businessman is likely to face when making cost and pricing decisions. There are significant arguments to be presented for and against the need for a study of this nature.

On the negative side is the argument that there is already so much in print on the subject that all the businessman needs to do is visit his neighborhood public library. The author visited a branch of the local public library (Ft. Worth, Texas) and found a number of books that dealt with various parts of the issue this paper is intended to address. The books found dealt with the issue at all levels from very basic 'how to' books intended for the small businessman to textbooks intended for undergraduate and graduate level college studies. The information is there for the asking.

³Ibid., p. 8.

⁴Ibid., p. 9.

⁵The Business Failure Record: 1976 (New York: Dun and Bradstreet, Inc., 1977), pp. 11-12.

Also on the negative side is the argument against condensing all the information contained in a comprehensive text (or for that matter several texts) into one short research paper. The very real possibility exists to short change the reader and leave him with an incomplete knowledge of the subject area. The research for this study including reading several books on each of the various topics addressed in this study. The task of picking and choosing the material important enough to be included is significant.

On the positive side is the argument that the statistics prove the need for a study in this area. They provide considerable evidence that cost and pricing problems are occurring. What is even more important than the statistical evidence is the evidence not in the statistics. One study found that only 1 in 10 business failures are sufficiently documented so as to appear in mortality statistics.⁶ The undocumented failures are almost exclusively in the small business arena.

Another positive argument for this study is need for a concise document the small businessman can read without having to decipher. Most books covering the areas addressed in this study are textbooks that are written above the level of people who do not have formal training in management or management related fields. Thus, the businessman can obtain the information, but only if he is willing to read a textbook. How many small businessman have that kind of extra time?

⁶Alvin D. Star and Michael Z. Massel, "Survival Rates for Retailers," Journal of Retailing 57 (Spring 1981), p. 88.

The need for education is there, nevertheless. One article went so far as to say "Small businesses are especially vulnerable to problems that stem from inadequate accounting and internal control."⁷ This study provide some of the knowledge to reduce that vulnerability.

Reason for The Study

This study is being conducted to assist the small businessman in recognizing and controlling costs and determining the pricing policies to follow to insure business survival. Cost control and pricing are major business decisions that affect all other aspects of the business. A firm grounding in these areas is essential.

Definition of Terminology

Small Business

There are no cut and dried quantitative standards used to define a small business. The Small Business Act of 1953 defines a small business as "one which is independently owned and operated and not dominant in its field of operation." An accepted yardstick of measurement is any business with fewer than 100 employees is considered a small business. However, The U.S. Small Business Administration (SBA) frequently reclassifies businesses in order to give them special advantages when bidding on government contracts. These reclassifications can be arbitrary. One such action in 1966 made American Motors (28,000 employees, 63rd largest corporation) a small

⁷Kathy Williams, ed., "Small Business," Management Accounting 65 (January, 1984), p. 16.

business.⁹ For the purposes of this study a small business will be defined as one that has less than 100 hundred employees.

Small Businessman

Any person, male or female, engaged in a small business. The use of the masculine gender carries no special significance. Small business is as much for the woman as it is for the man.

Absorption Costing

A method of cost assignment and control in which all costs, both direct and general overhead, are assigned to products and services. Some formula for allocating these costs is usually employed.

Direct Costing

A method of cost assignment and control in which only the costs directly traceable to a good or service is charged against the production of that good or service. Direct costing holds that fixed overhead is assigned against the business as a whole as a period cost.

Contribution Pricing

Pricing policy which emphasizes the degree to which the sale of a product or service contributes to profit rather than the degree to which it contributes to revenue.

⁹Halsey N. Broom and Justin G. Longnecker, Small Business Management (Cincinnati, Ohio: South-Western Publications Co., 1979) p. 3.

Chapter II

Methodology

In conducting this study two steps will be carried out: gathering of information on the various topics addressed and analyzing and presenting the information in such a way as to meet the goals of the study. The information will be gathered from the ample supply of articles and text books on the subjects. These sources include current periodical literature, library textbooks, journals, newspapers, and statistical abstracts.

The information will be analyzed using a variety of methods. Since the purpose of this study is to assist the small businessman in making cost control and pricing decisions, examples and case studies will be used. We will assume in this study there are two businesses. The first is Jim's Wire and Cable, Inc. and the other is Hydraulic Parts, Inc. Jim's Wire and Cable is a manufacturer of wire and cable products for variety of uses including electrical, aircraft, and machinery. The company operates only at the wholesale level. Hydraulic Parts is a manufacturer of hydraulic fittings and actuators for a variety of uses and operates at both the wholesale and retail levels.

For the two fictitious companies in this study no business history is provided or needed. It will suffice to say both companies are considered small businesses and have about 50 employees each. Jim's Wire and Cable has a single manufacturing facility while Hydraulic

Parts operates a small plant to make hydraulic actuators and another to make hydraulic fittings.

During the course of the study we will apply absorption and direct costing techniques to these two companies' business situations and determine which is most appropriate for a particular situation. We will next apply various pricing techniques to each companies pricing problems to determine what type of pricing policies would best suit each concern.

Chapter III

Choosing Between Absorption and Direct Costing

What Is the Purpose of Cost Controls?

In order for any business to succeed, the prices charged must be sufficient to cover all costs and provide a reasonable profit. This sounds like a very basic statement (and it is) but there are many small and large businesses who just can't turn this statement into practice. The purpose of cost controls is to give the manager an idea of what it costs to produce a good or service.

By knowing what it costs to provide the good or service and what its worth is in the marketplace, an informed decision can be made on whether or not to continue to provide the good or service.

Cost control must provide four vital functions. They are: planning, control, pricing, and affordability.⁹ The planning function should provide a means to develop a business plan designed for profitable operations. The control function should generate information for the manager and business owner so operations can be kept on the straight and narrow path to success and also to serve the purpose of evaluating performance to see where attention is needed. The pricing function is an indirect one. By knowing what each good or service costs and the price to charge for it, it is easy to determine whether or not it is profitable. The last function, affordability, is related

⁹Edward J. McNesby, Direct and Full Absorption Cost Control (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969) p. 1.

o not having a cost control that costs more to operate than it's worth. This is especially crucial to the small businessman who cannot usually afford to hire someone solely to gather this information.

Absorption Method

The first of the two cost control methods discussed in this study is the absorption method. The principles this method embodies as well as the rules and assumptions used to apply it will be studied. In the course of the discussion this method will be applied to our two hypothetical companies.

The absorption method is based on the principle that all costs actually associated with the production of a good or service should be charged to the production of that good or service. These costs include not only prime costs (direct labor and direct materials) but also fixed and variable overhead costs. The inclusion of fixed overhead costs in the total product costs is the main difference between this method and the direct cost method discussed later.

Within the realm of cost management, absorption and direct costing are considered to be methods of determining costs within a given type of productive system. The type of productive system refers to the production process taking place to transform raw materials into goods or services. The two types of production systems most frequently seen are the job order (sometimes called job shop or batch) and the process production system. The job order method is characterized by batches (a batch may mean only one unit) of several different products produced in the same plant. Examples would be a

machine shop, printing shop, or furniture factory. The process method is characterized by a continuous process whereby a homogeneous product is produced during long production runs. Examples include gasoline, cement, brick making, and flour milling. The absorption costing method will be applied to both of these systems in several examples. The examples will demonstrate the principles of this method and the type of information it can provide for the manager.

The absorption method can be subdivided into those calculations based on actual costs and those based on standard costs. Actual costs are the price of raw materials, labor, water, gas, electricity, etc., actually paid out while standard costs are predetermined expected costs based in part on historical data and in part on what management thinks they should be paying. Actual costs can and almost always do vary within an accounting period while standard costs are by definition fixed over the length of the accounting period. The discussion will also address the advantages and disadvantages of using each method.

Absorption Actual Costs

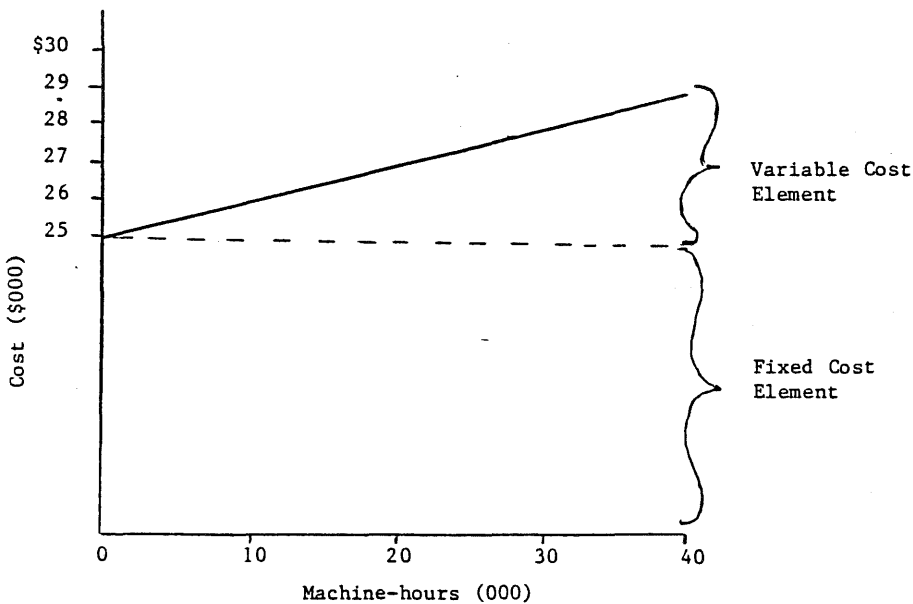
As explained earlier absorption costing means that all actual costs of production are charged to products. This includes fixed and variable manufacturing overhead. The rationale for including overhead is that it benefits all the products in the manufacturing operation and therefore is a part of each product's cost. However, in cases in which the overhead can be reasonably traced to a particular

product, it should be charged to that product rather than allocated to every product in the product line.

Overhead costs are generally considered to be all costs other than direct labor and direct materials. It is also called by such names as factory burden, indirect manufacturing costs, and manufacturing overhead. Examples include: utilities, rent, depreciation, equipment and building maintenance, supplies, and expendable tools. It includes items that are either not readily traceable to a particular unit of production or too insignificant to track individually. Examples of non-traceable items be cutting oil in a machine tool operation. Sealing compound in an auto glass shop would be an example of an insignificant item.

Overhead costs are further broken down into fixed, variable, and mixed components. The fixed component would include such items as rent, some insurance costs, and salaried supervisory personnel. Variable costs would include some labor and material costs (usually referred to as indirect material and indirect labor), expendable tools, and inspection personnel. Mixed costs are most characterized by utility costs. Utilities usually have a minimum charge that is independent of usage. Additionally, there is a level of utility usage that will be independent of whether or not the business is in operation. Examples of this would be safety or security lighting and a level of heating sufficient to prevent pipes from freezing. Any cost above minimum levels would be treated as variable overhead. Figure 1 further illustrates the point in a graphical manner. In this case

a certain machine (large floor polisher used in factory maintenance) has both fixed and variable costs associated with it. The fixed component is the lease payment that is incurred whether or not the machine is used. The variable component consists of items such as floor polish, buffing pads, and maintenance for the polisher. The entire cost of this machine is charged into overhead accounts.

Figure 1¹⁰

One of the most important problems in the area of overhead allocation is determining how much overhead to apply to each product. This problem is usually referred to as the "allocation basis" problem. The allocation basis is any yardstick of measurement that can relate the overhead costs back to the product. The basis can be number of machine hours or the number of direct labor hours used. These two are

¹⁰Ray H. Garrison, Managerial Accounting (Dallas: Business Publications, Inc., 1979), p. 130.

Figure 2¹¹

COST ACCOUNT	GENERAL OVERHEAD	ALLOCATION BASIS		OVERHEAD ALLOCATION	
		PROD A	PROD B	PROD A	PROD B
Electricity	\$ 2,000	10,000 sq. ft. floor space	30,000 sq. ft. floor space	500	1,500
Supplies	200	10,000 sq. ft. floor space	30,000 sq. ft. floor space	50	150
Maintenance	2,000	10,000 sq. ft. floor space	30,000 sq. ft. floor space	500	1,500
Supervision	6,000	3,000 direct labor hours	3,000 direct labor hours	3,000	3,000
Depreciation	<u>4,000</u>	10,000 sq. ft. floor space	30,000 sq. ft. floor space	<u>1,000</u>	<u>3,000</u>
Total	\$14,200			\$5,050	\$9,150

by far the most common.¹² The amount of plant space in square feet used to produce the product is also used, but to a lesser extent.

Figure 2 illustrates a typical allocation of overhead in a two product situation.

The five categories of electricity, supplies, maintenance, supervision, and depreciation are cost categories that are not exclusive to the production operations of the business. For instance, the company sales and administrative offices need electricity just as much as the factory does. Likewise, the administrative offices need supplies, maintenance supervision, and have depreciation costs against some of

¹¹Edward J. McNesby, Direct and Full Absorption Cost Control (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969) p. 22.

¹²Ray H. Garrison, Managerial Accounting (Dallas: Business Publications, Inc., 1979), p. 61.

Figure 2¹¹

COST ACCOUNT	GENERAL OVERHEAD	ALLOCATION BASIS		OVERHEAD ALLOCATION	
		PROD A	PROD B	PROD A	PROD B
Electricity	\$ 2,000	10,000 sq. ft. floor space	30,000 sq. ft. floor space	500	1,500
Supplies	200	10,000 sq. ft. floor space	30,000 sq. ft. floor space	50	150
Maintenance	2,000	10,000 sq. ft. floor space	30,000 sq. ft. floor space	500	1,500
Supervision	6,000	3,000 direct labor hours	3,000 direct labor hours	3,000	3,000
Depreciation	<u>4,000</u>	10,000 sq. ft. floor space	30,000 sq. ft. floor space	<u>1,000</u>	<u>3,000</u>
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¹¹Edward J. McNesby, Direct and Full Absorption Cost Control (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969) p. 22.

¹²Ray H. Garrison, Managerial Accounting (Dallas: Business Publications, Inc., 1979), p. 61.

their equipment just as the factory operators do. However, office and administrative costs are not a part of factory overhead. The electricity costs are for the electricity used to light the factory facilities. The supplies are for items necessary to keep the factory facilities clean. Maintenance applies to such items as paint for the factory, lawn mowing, roof repairs, etc.. Supervision is used to cover the costs of a factory manager and his office staff. Lastly, depreciation is used to take into account the plant facilities and the equipment used in the production process. In summary, a particular cost category may not be unique to the production process, but only that part of the cost that can be reasonably related back to the production process is charged as factory overhead.

As explained earlier, the allocation basis is a function of how much resources are used to produce each product. The allocation for electricity, for example, may be based on the floor space used in the production of each product. Likewise, supplies, maintenance, and depreciation may use this same basis. However, supervision is allocated on a different basis, direct labor hours. The reason is the more employees it takes to produce a product, the greater the number of direct labor hours required and consequently, the greater the amount of supervision required. Thus, the amount of supervision varies directly with the number of labor hours invested in each product. The most important fact to remember when determining the allocation basis is to allocate to each product based on a common denominator such as floor space, direct labor hours, etc..

Now that we have the principles for allocating overhead under the absorption concept, a more comprehensive example can be presented. Figure 3 illustrates the result when the two products have been fully costed. It is noteworthy that the categories of costs under which factory overhead is allocated also have components that are considered direct costs. The reason for this cost treatment is that if the cost

Figure 3¹³

COST ACCOUNT	PROD A	PROD B
Raw Materials	\$10,000	\$ 5,000
Direct Labor	10,000	10,000
Electricity-direct	2,000	1,000
-allocated	500	1,500
Supplies-direct	400	400
-allocated	50	150
Maintenance-direct	1,000	1,000
-allocated	500	1,500
Supervision-direct	1,000	1,000
-allocated	3,000	3,000
Depreciation-direct	1,000	500
-allocated	<u>1,000</u>	<u>3,000</u>
Total	<u>\$30,450</u>	<u>\$28,050</u>
Units Manufactured	1,000	1,000
Full absorption cost per unit	\$ 30.45	\$ 28.05

is completely traceable to a single product then it is considered a direct cost of that product. An example of this cost treatment is the situation in which product A is manufactured in one building while product B is manufactured in a separate building within the same

¹³Edward J. McNesby, Direct and Full Absorption Cost Control (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969) p. 23.

complex. Consequently, the cost of electricity used to operate plant A is a direct cost of producing product A. The portion of the electricity costs not directly traceable to a specific product are allocated as overhead costs. This example is similar to the situation with Hydraulic parts, Inc., one of our fictitious companies. Hydraulic Parts operates two separate plants. The separate plants allow the separation of costs between different product lines.

The example in figure 3 can be equally applied to the business situation at Jim's Wire and Cable. The manufacture of wire and cable products is frequently a process operation. Raw materials and direct labor are still required. The five overhead categories are also required. These five categories are consolidated into a category called processing costs. Figure 4 illustrates the unit cost calculation. It can be seen that there really is no conceptual difference

Figure 4¹⁴

Materials.....	\$44,650	
	8,930 lbs =	\$ 5.00/lb
Processing.....	\$81,630	
	8,930 lbs =	\$ 9.14/lb
Total Cost.....		\$14.14/lb

in how the principles are applied between the job shop and process production systems.

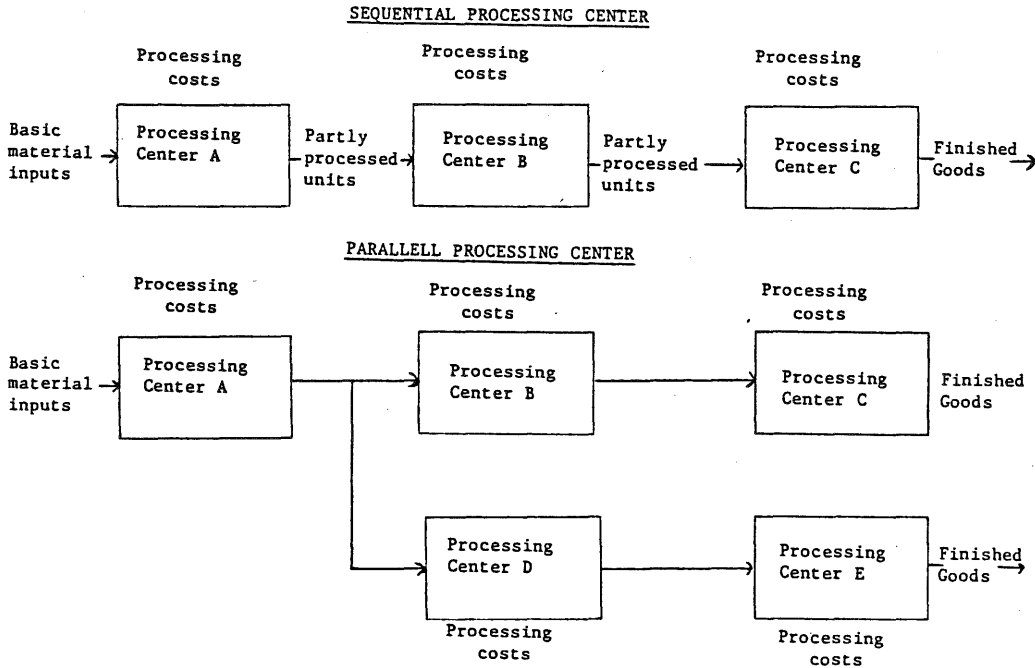
¹⁴Ray H. Garrison, Managerial Accounting (Dallas: Business Publications, Inc., 1979), p. 83.

In Figure 4 we introduced the processing concept of a processing center. A processing center is the location within the factory where the raw materials are converted into a finished product. The processing center can be organized in two ways, sequential or parallel.

Figure 5 illustrates the two patterns. In the sequential processing pattern the output of each processing center is the input for the next processing center. An example of this pattern is a brick factory. A typical factory might have three processing centers: mixing, molding, and firing. The basic raw materials are the input to processing center A (mixing) while the output of A is the raw material for processing center B (molding). The output of B is the input for the processing center C (firing). In this case the materials cost for processing center B would equal the cost of the fully processed unit of production from processing center A. This situation is called transfer pricing.

The other processing pattern that will be covered is called the parallel processing center. Figure 5 also depicts this pattern. Completed units of production from processing center A may go to either center B or center D. This type of pattern is common to the petrochemical industry and dairies. It also applies to the situation with Jim's Wire and Cable. The treatment of processing costs is no different than in the sequential processing pattern.

Parallel processing can be applied to Jim's Wire and Cable in the following example. In the manufacture of Romex (a trade name) electrical cable four types of wire are used: black plastic sheathed, white

Figure 5¹⁵

plastic sheathed, red plastic sheathed, and bare unsheathed. Each of these four types of wire can be marketed as a separate end item.

Under the parallel processing concept each type of wire has two paths, the end item path and the Romex cable path. In the end item path the wire is sold as sheathed or bare wire. In the Romex cable path the the four types of wire are assembled into Romex cable and the cable is marketed as the end product.

Processing costs are calculated by measuring them over a period of time. Figure 4 illustrates the calculations. The reason for measuring over time is the processing center runs continuously and at a steady rate. Therefore it is not a difficult task to measure the

¹⁵Ibid., p. 80.

costs associated with each processing center. The cost per unit for materials, processing, and the two combined are calculated by simply dividing the costs over a period of time by the units involved (pounds).

A characteristic of manufacturing overhead that causes much of the debate in this area is that it makes up a sizeable portion of total manufacturing costs. To illustrate the point, let's take another look at Figure 3. It can be seen that for product A the overhead accounts for 16.6% of the fully absorbed unit cost while product B overhead accounts for 32.6% of the total unit cost. Other examples the author has researched contain overhead costs on the order of 45%. Overhead costs are a significant portion of total production costs.

When assigning overhead costs to total product cost it is frequently impractical and unwise to use actual overhead costs. The reason is actual overhead costs are not known until after the accounting period is over. What the manager needs is a rate that can be charged to the products in lieu of actual costs. This rate is called the predetermined overhead rate. The predetermined rate is calculated with the formula:

$$\text{ESTIMATED TOTAL MANUFACTURING OVERHEAD COSTS} / \text{ESTIMATED TOTAL UNITS IN THE BASE (DIRECT LABOR-HOURS, ETC.)} = \text{PREDETERMINED OVERHEAD RATE}$$

The totals in the formula reflect the totals for the accounting period. There are times when a predetermined rate needs to be slightly modified. The modification is called a normalized overhead rate.

A normalized overhead rate is necessary when the nature of production causes wide fluctuations in the amount of overhead costs incurred between accounting periods. A normalized rate takes into account fluctuations between several accounting periods. Normalized rates also prevent products from being costed at drastically different amounts from one period to the next.

Full absorption actual costing has several advantages of interest to the small businessman. First, it is the most inexpensive means of cost control. The information gathered for use under absorption actual costing is same information used for external reporting and taxes. This method is most appropriate in stable business situations not involving competitive pressures or the requirement to frequently discount products.

Cost control under absorption actual costing consists of watching unit costs from one period to the next to detect fluctuations. Once fluctuations are detected, they are analyzed to see if they are controllable or uncontrollable.

Absorption actual costing also has some disadvantages. It depends on stability for its effectiveness. Wide swings in production costs will likely make the information undependable in the short run. Since unit costs are tied to the number units produced, changes in total units produced can lead to a magnified difference in unit costs. This, in turn can lead to unreliable profit estimates. One article stated the problem in the following manner:

Today's pace of change is often so overwhelming that the validity of a basic assumption of cost theory has diminished. Traditional cost accounting systems assume a certain amount of stability—at least through the budgeting period, which is usually one year.¹⁶

One final disadvantage of absorption actual costing is the difficulty in closing the books quickly after an accounting period is ended. In a smaller firm with only a few products this is not a major problem. A larger firm, however, might find the delay to be a problem. Periodic reports (income, balance sheet, etc.) might be delayed as a result of the slow closing.

Absorption Standard Costs

The more widely used technique for cost control under the absorption method is standard costing. Standard costs are defined as a predetermined set of costs based in part on historical data and in part on estimates of what it should cost to produce a product. The standard costs are not necessarily related to the actual costs. The actual costs may reflect poor management, waste in the production operation, or overhead costs that are out of control. One managerial accounting text states "Standards are used to inform management what the manufacturing cost per unit should be before the product is produced."¹⁷

¹⁶Robert G. Eiler, Walter K. Goletz, and Daniel P. Keegan, "Is your cost accounting up to date?," Harvard Business Review 60 (July/August 1982), p. 135.

¹⁷Jack Gray and Don Ricketts, Cost and Managerial Accounting (New York: McGraw-Hill Book Company, Inc., 1982), p. 213.

The purpose of standard costing is to exercise control through the use of management by exception. If some costs and quantities are meeting targets and some are not, the manager must devote his time to the ones not meeting the targets. The standards set should be practical rather than ideal or theoretical. Practical standards are attainable in a properly managed system while ideal standards are based upon a skilled and efficient work force always working at maximum efficiency. This is hardly a reasonable expectation and to demand it might well be counter-productive. The standards are an attainable goal for employees and management alike.

The three cost elements of absorption standard costing are direct labor, direct materials, and manufacturing overhead, the same as for actual costing. The discussion will include the procedures used to determine standards as well as a brief discussion of the usefulness and importance of analyzing deviations (variances) from the standards. Understanding these factors will give the manager a firm idea of how standard costing techniques can improve cost control.

The first area is applying standards to direct labor costs. The first step is to determine the amount of labor (labor hours) it takes to produce one unit of the product. The product can be the end product or it may be a subassembly. Two common methods used are standard time tables and engineering estimates. Standard times are determined by analyzing each action used in the production operation and setting a standard for that action based on prevailing wages, customs, etc..

An easy method to set the time standard for the small business is to use a trusted employee to time other employees performing a task. Averaging several employees over a period of time should give good idea of how long it takes to perform a particular task. Once the standard time for accomplishing the task is known, allowances are made for employee breaks, machine downtime, and so forth. The total of all these factors is the standard time for performing the task. One management text emphasizes that standard times "should be that for first class employees who have been properly trained."¹⁸

Once the standard time is known the standard labor rate must be calculated. The standard labor rate is derived in a manner similar to that used for the standard time. Basic labor costs (hourly wages, taxes, fringe benefits, etc.) are all added together. The resulting figure will reflect the actual cost for an hour of work.

Under process costing the standard determined in lieu of a standard labor rate is the standard processing cost. A component of the standard processing cost is the standard labor rate.

The standards for materials are set in a manner similar. The quantity of each material required reflects what it actually takes to produce a unit of product. Waste, spoilage, and rejections are all included in the standard quantity of materials for each unit of production. Freight, receiving and handling, and any price discounts normally taken are also figured into the unit materials price.

¹⁸Samuel M. Woolsey, Direct Costing Techniques for Industry (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1967), p. 55.

The last area to be discussed, overhead, has similarities to the predetermined overhead rate discussed earlier, but also some important differences. The standard overhead rate is set by first determining an attainable production level or volume. After determining the level of production, the fixed and variable overhead charges are determined for this level. (Historical data is the quickest and easiest way of doing this.) The total overhead charges are divided into the production volume and the result is the standard overhead rate. Figure 6 illustrates the process.

Figure 6¹⁹

Normal capacity or budgeted volume (1,000 units x 2 hours)		2,000 direct labor-hours
Standard variable factory overhead	\$ 4,000	
Standard fixed factory overhead	16,000	
Standard total factory overhead	\$20,000	
Standard variable factory overhead rate per direct labor-hour	\$ 4,000 2,000 = \$2.00	
Standard (budgeted) fixed factory overhead rate per direct labor-hour	\$16,000 2,000 = \$8.00	
Standard (budgeted) total factory overhead rate per direct labor-hour	\$20,000 2,000 = \$10.00	

¹⁹Letricia Gayle Rayburn, Principles of Cost Accounting: Managerial Applications (Homewood, I.L.: Richard D. Irwin, Inc., 1985), p. 435.

One of the key characteristics of standard costing is the ability to analyze deviations from the standards. The area of cost accounting that deals with deviations is called variance analysis. Variance analysis can tell you whether you are under or over cost targets even when actual production does not match the planned levels. This is done by calculating what should have been spent to achieve the level of production experienced, based on the standard cost data. By calculating variances for direct materials, direct labor, and overhead, adjusted for the actual level of production, it is possible to spot problems as well as economies.

The principles of standard costing and variance analysis also permit the construction of flexible budgets. A flexible budget can be made to order for a range of activity during a period. After the period is over, the flexible budget can be adjusted for the actual production level to tell the manager what should have been spent to achieve the actual production level. The actual calculation or variances and construction of flexible budgets will not be discussed in this study. It is safe to say, however, that they are both powerful tools for the manager in a constant struggle to maintain a profitable enterprise.

Absorption costing with standard costs has some advantages over absorption actual costing. First, the use of standard costs remove some of the volume caused fluctuations in unit costs experience with absorption actual costing. Standard costing more quickly reveals, through variance analysis, deviations caused by management lapses or

poor economies. Second, accounting books can be closed sooner with standard costing than with actual costing because standard costs for each unit of output do not have to be recalculated each accounting period.

Absorption standard costing has some of the same disadvantages as actual costing. While it is necessary to use absorption costing for external reporting (taxes), absorption standard costing can lead to erroneous decisions when evaluating various segments of the business. The allocation of fixed overhead to a particular product or service line may give the impression it is losing money when it is fact at least partially profitable.

The absorption costing method can be a useful tool for the manager in controlling costs in either a job shop or process environment. It can be used with either actual or standard costing methods although the standard costing method yields data that is more relevant in the controlling function of management. The assimilation of fixed manufacturing overhead into total product costs is the main area of difference between it and the direct costing method examined next. This section has attempted to explain the absorption method in a way the average manager will understand while keeping a neutral stance vis a vis the direct costing method. The pros and cons of the two methods will be discussed later in this chapter.

Direct Cost Method

The other major cost control method that will be addressed in this study is the direct costing method. Under the direct costing method, only variable manufacturing costs (direct labor, direct material, variable overhead) are included. Fixed overhead is not included in product costing. It is treated separately as a periodic cost along with selling, administration, marketing, and other costs not directly related to production. The deletion of fixed overhead costs from product costs is the primary difference between this method and the absorption method.

The topics discussed in this section will be similar in many ways to those discussed in the section on absorption costing. Many of the definitions and concepts are similar and will not be repeated. The major areas discussed include a brief review of actual and standard costs as they apply to direct costing. Fixed costs will be discussed and the concept of contribution will be introduced, a principle in direct costing that states any level of production bringing in more income than the variable production costs is "contributing" to the payment of fixed costs.

Under direct costing, as with absorption costing, either actual or standard costs may be used. The arguments favoring the use of standard costs over actual costs for control purposes are no different. The lack of timeliness in the receipt of actual cost information makes it difficult to use this information for control purposes. Standard costs also reflect more of a long run average cost than do

actual costs. Abnormally high or low actual costs for a given period might prod management to make rash decisions. Standard costing can help prevent this from happening. It is for these reasons that this is the preferred way to assign costs under the direct costing method.

Under direct costing fixed overhead costs are charged as a period cost rather than a part of product costs. The rationale is that the fixed costs, being fixed (reasonably) can skew the unit price of the product downward in cases where production is high. On the other hand, when production is low the unit price will be skewed upward.

Perhaps the strongest cornerstone of the direct costing method is the concept of the "contribution margin". The contribution margin can be defined as "the contribution made by the revenue of a period, after payment of variable costs, toward the payment of fixed costs and realization of profit." The contribution margin can give management valuable information concerning where its marketing efforts should be directed. When management knows the margin for each product, it knows which products generate the greatest potential profit. In a short-term situation, the contribution margin will tell whether the product is recovering its variable costs and thus should be continued or whether it would be cheaper to stop production (not recovering variable production costs). The use of the contribution margin in setting pricing policies will be discussed in more detail in the chapter on pricing policies.

The major advantage of direct costing is the insulation of cost data from the effects of fixed overhead on unit costs. Fixed overhead

can make costs appear lower in times of high production and high in times of low production. Direct standard costing also facilitates planning because it provides information that varies directing with production levels. The contribution margin and the ability to tell where the break even sales point is are additional strong points.

The major disadvantage of direct costing is that it ignores a significant business cost, fixed overhead. There is the possibility that management will be so focussed on variable costs they will forget all about the fixed costs that form a significant part of the total cost of doing business. Another disadvantage is that direct costing is not allowed for tax purposes. Consequently, a full cost system must be maintained in addition to the direct costing system.

Absorption or Direct Which is Best?

In the preceding sections of this chapter the absorption and direct costing methods for cost control were discussed. Both of these methods have advantages and disadvantages, at least in the minds of the proponents of each viewpoint. This section will attempt to present the major pro and con viewpoints of these two methods. The arguments will concentrate on fixed costs, the central difference between the methods. Claims that direct costing has a superior ability to relate costs on a unit basis will also be addressed.

The controversy between absorption and direct costing centers around the treatment of fixed production costs. The absorption costers include them because they feel that inasmuch as production

cannot take place without the incurrence of fixed factory costs, each unit of output must be allocated a pro rata share of those costs."²⁰ They contend that if there is no production, in the long term there would be no fixed costs because the company would go out of business. The direct costing advocates, however, do not agree with this idea.

Direct costing theory argues that fixed factory overhead is a period cost and is not dependent on the level of production. One article in Management Accounting stated, "Direct costing is based on the fact that some costs are attributable to a particular time period while other costs are dependent on volume produced." The direct costers further state that period costs have been defined as "committed, programmed and planned costs which are incurred to provide and maintain the capacity to produce."²¹ Their argument proceeds that since some costs are period costs and period costs are programmed and related to capacity, therefore fixed costs are programmed and related to capacity and are period costs. This appears to be an error in logic, though it may in fact be plausible.

This writer agrees that fixed overhead costs are programmed and are paid out periodically but that is where the agreement ends. Fixed overhead costs will not be incurred "but for production." If a factory is not producing then there would not be any fixed overhead

²⁰M. Ali Fekrat, "The Conceptual foundations of Absorption Costing," Accounting Review 47 (April 1972), p. 351.

²¹Richard W. Swalley, "The Benefits of Direct Costing," Management Accounting 57 (September 1974), p. 14.

charges, at least not for long. Others have the same views. The author of a 1973 American Institute of Certified Public Accountants (AICPA) study stated:

"I consider it illogical to contend that the cost of the metal being formed in the machine and the labor-hours being expended by the operator are part of product costs but not the costs incurred in managing the manufacturing activities and in providing and maintaining the machine and the lighted and heated facilities in which the operations take place."²²

Direct cost advocates argue these fixed costs should not be charged to product costs. It is difficult to deny that the higher the level of utilization of a factory, the cheaper each unit of production. Which is cheaper, a gallon of gasoline from a refinery that produces 10,000 gallons per year or a gallon from one that produces 100,000,000 gallons per year? This author will buy his stock in the 100,000,000 gallon per year refinery.

Another argument critical of absorption is that assigning fixed costs to production can distort profits in a low production period. One article stated emphatically that "profits are a function of production levels, as well as of sales."²³ This is not an indictment of absorption as much as it is a fact of life. If a factory is producing at half its normal level, some very expensive equipment is being underutilized. Consequently, it costs more to produce each unit

²²Horace G. Bearden, "The Accounting Basis of Inventories," Accounting Research Study No. 13, AICPA (1973), p. 70

²³R. Greg Shulte, "One More Time: Direct Costing Versus Absorption Costing," Management Accounting 57 (November, 1975, p. 13.

of production (on an average basis) than it does for full production levels.

External reports are required by law to be compiled under the absorption method. Tax laws require inventories to be valued at full cost. The direct costers argue these errors in income reporting will lead to unwise management decisions. They neglect the fact that the difference in income is only a short term occurrence. All costs will be charged in the long term and income will be the same.

The other major claim investigated in this section is that direct costing better relates costs on a unit by unit basis. Direct costing is set up to relate costs on a unit by unit basis because it deals only with variable costs and total variable costs are readily converted to unit costs. One author stated, "Under direct costing, the product manager is cognizant of his variable costs. . . ."²⁴ The implication is that under absorption he is not. The article goes on to imply the only cost the manager has is the fully absorbed cost and nothing else. Others claim the variable and fixed components of an absorption cost statement cannot be separated.²⁵ Absorption proponents address this claim directly. "Is there something about absorption costing which prohibits this cost separation? Surely not. On the

²⁴Richard W. Swalley, "The Benefits of Direct Costing," Management Accounting 57 (September 1974), p. 16.

²⁵Henry H. Flock, "The Change to Direct Costing in a Multi-Product Company," Management Accounting 53 (January, 1971), p. 54.

contrary, this separation is a crucial step to satisfactory product costing under absorption costing."²⁶

There is no evidence to support the contention that direct costing is any more capable of sorting out costs than absorption. There is no reason to think direct costing is any more capable than absorption of determining direct material or labor costs. A good absorption system must find and report all costs just as a good direct system must do.

Based on an examination of the arguments for and against the two cost control systems, it must be concluded that both will yield the same information to the manager, if they are used directly. Direct costing provides information to use in controlling the production process while absorption provides total product cost information adjusted to include fixed overhead charges. Absorption systems tend to be a little less expensive to implement but the advent of micro-computers has helped even that aspect of the debate.

Increasing numbers of management professionals are advocating the use of both systems together. One states "The standard absorption costing system is a sound, precise management tool for evaluating performance, Used with the direct costing method, the ability to respond to requests for analysis of business propositions is

²⁶R. Greg Shulte, "One More Time: Direct Costing Versus Absorption Costing," Management Accounting 57 (November, 1975, p. 12.

increased substantially"²⁷ Yet another article says "Utilize
the best features of both systems."²⁸ This author agrees.

²⁷Delbert J. Frye, "Combined Costing Method: Absorption and Direct," Management Accounting 52 (January, 1971), p. 20.

²⁸Thomas S. Dudick, "Alternative Costing Methods for Reporting and Pricing Purposes," Journal of Accountancy 128 (October, 1969), p. 54.

Chapter IV

Pricing Decisions Simplified

In this chapter a topic near and dear to the hearts of all small businessmen will be discussed, pricing. This chapter will attempt to simplify basic pricing concepts and give the small businessman an idea of how to apply these concepts. Major pricing concepts covered will include cost-plus pricing, the contribution approach (discussed briefly in the last chapter), break-even analysis, and cost-volume-profit analysis. New product pricing concepts of skimming and penetration pricing will also be discussed.

"Many firms have no pricing problems at all."²⁹ This statement refers to the fairly normal situation in which products compete with similar products from other companies, e.g., discount gasoline sales. This is the normal state of existence at the retail level. The two fictitious companies in our study, Jim's Wire and Cable and Hydraulic Parts, operate at the producer level. They must set the prices for their products. One popular management publication stated "A soundly developed strategy could be the key to success, while a poor strategy or no strategy could have a negative impact . . ."³⁰ One method of setting prices that is easy for the small business to apply is cost-plus pricing.

²⁹Ray H. Garrison, Managerial Accounting (Dallas: Business Publications, Inc., 1979), p. 484

³⁰John M. Bassett, "Pricing Your Product-What Should You Sell it For," CPA Journal 57 (April 1987), p. 76.

Cost-plus pricing is one of the most common methods of price setting. Cost-plus pricing is based upon recovery of full production costs. It can either be used with the absorption cost basis or with the direct cost basis. Figure 7 illustrates typical cost-plus pricing computations for both cost basis. It can see from this example the target selling price is the same for either cost basis. Cost-plus pricing provides an easy to calculate starting point for product pricing.

Figure 7³¹ABSORPTION BASIS

Direct materials	\$ 5.00
Direct labor	4.00
Overhead at 275% of Direct labor cost	11.00
Total cost to manufacture	\$20.00
Markup to cover selling and administrative expenses, and desired profit-50% of cost to manufacture	\$10.00
Target selling price	\$30.00

DIRECT COST BASIS

Direct materials	\$ 5.00
Direct labor	4.00
Variable overhead	4.00
Variable selling and administrative expenses	2.00
Total variable expenses	\$15.00
Markup to cover fixed expenses and desired profit-100% of variable costs	15.00
Target selling price	\$30.00

³¹Ray H. Garrison, Managerial Accounting (Dallas: Business Publications, Inc., 1979), p. 492-3.

In the previous example direct costing was introduced as a means of price setting under normal business conditions. A special case of direct costing which recognizes only incremental costs is called contribution pricing. Contribution pricing is a concept in which prices are set based only on the variable costs of production. Fixed overhead costs are not used. This concept is important to businesses of all sizes and small businesses in particular. Firms are often forced by competitive conditions to revise cost estimates and change selling prices.³² In the previous example, the target selling price was \$30.00 with a variable cost of production of \$15.00. The remaining \$15.00 of the selling price covers fixed costs and profits, under long run conditions. What about the short run?

In the short run, any selling price above the \$15.00 variable cost of production "contributes" to the coverage of fixed costs and the accumulation of profit. Intuition will tell the reader this is true. The fixed costs will be relatively the same in the short run whether 1,000 units are sold or 1 unit is sold. Therefore, any short run selling price in excess of the \$15.00 variable cost should be accepted. The next question: when should this concept be applied?

The application of the contribution concept can be reduced to two situations for the small business. The first is discounting the full cost price of a product to gain more sales and avoid losses. K-Mart has built a retailing empire based on this idea. The effect of

³²John M. Bassett, "Pricing Your Product-What Should You Sell it For," CPA Journal 57 (April 1987), p. 76.

discounting is illustrated by figure 8. The small business can make great use of this concept since products are less likely to be differentiated by characteristics other than price than with larger businesses.

Figure 8

FULL COST BASIS

Variable costs	\$ 9.00	
Fixed costs	7.00	
Expected profit	4.00	
Target selling price	\$ 20.00	
Target volume	10,000 units	
Target profit	\$ 40,000	

CONTRIBUTION (DISCOUNTING)

Discount selling price	\$ 17.00	
Less: variable costs	\$ <u>9.00</u>	
Contribution margin/unit	8.00	
Volume	14,000 units	
Total contribution margin	\$ 112,000	
Less: fixed costs @ \$7.00/unit .	98,000	
Profit	\$ 14,000	

As it can be seen, discounting increased sales and still resulted in a \$14,000 profit. Discounting is typically used when economic times are hard or competition is keen to generate at least some profit. The other application of the contribution principle concerns the use of idle production capacity.

Consider the example in figure 9. Assume the full cost volume

figure represent 75% of the plants rated output. A potential customer offers to buy 1,500 units of output at \$12.00 per unit. Should you take the offer? Figure 9 gives the analysis.

Figure 9

Selling price	\$12.00
Variable cost	<u>9.00</u>
Contribution margin	3.00
Volume	1,500 units
Total contribution margin ..	\$ 4,500

In the situation involving the use of otherwise idle capacity, fixed costs are again disregarded. Only variable costs are used to make the decision on whether or not to accept the offer. A full cost analysis of the special sale opportunity is incorrect because fixed costs contained in the full cost price are sunk costs that would be incurred anyway. Therefore, they are not relevant to the decision. It is not at all uncommon for managers to incorrectly use full costing to make the types of decisions in this example.³³ The \$4,500 contribution margin represents funds to cover fixed costs and profit that would not have otherwise been realized because of the idle capacity. Therefore, the special sale opportunity is a good decision.

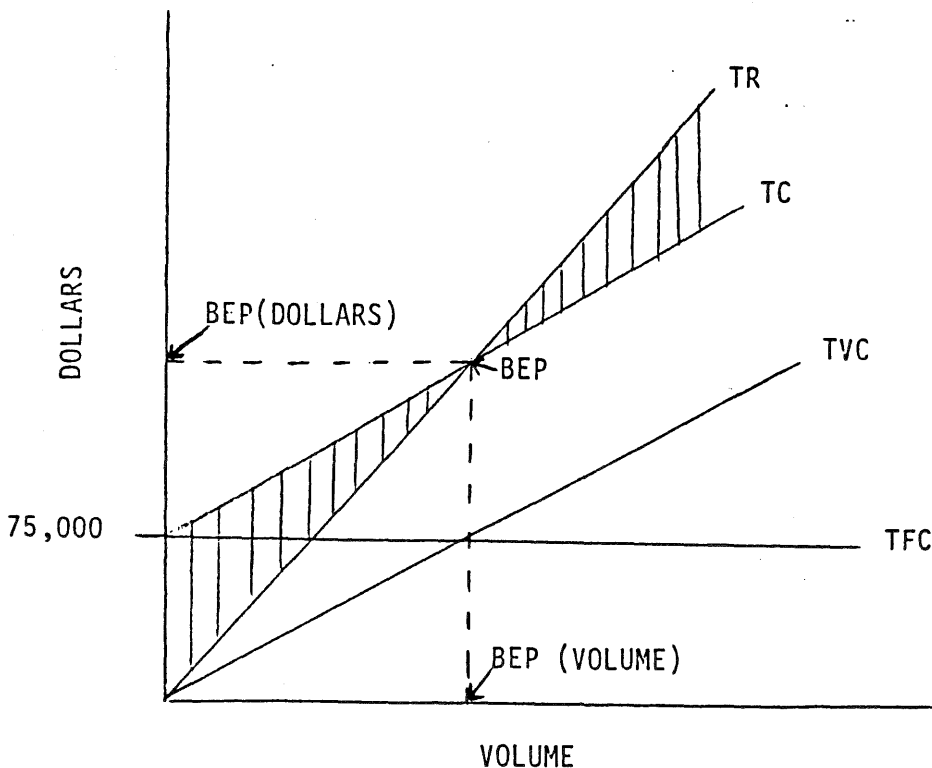
Two pricing topics important to the small business are breakeven analysis and cost-volume-profit analysis. Breakeven analysis is con-

³³Thomas S. Dudick, "Alternative Costing Methods For Reporting and Pricing Purposes," Journal of Accountancy 128 (October, 1969), p. 52.

cerned with finding the minimum level of sales and production necessary to cover all fixed and variable costs. Cost-volume-profit analysis (CVP) is an application of the contribution principle interrelating product costs, sales volume, and expected profits.

One question the businessman is always asking is: how much production is needed to break even? Breakeven (BE) analysis is concerned with answering this question. BE analysis is concerned with the minimum levels of production necessary to cover all fixed and variable costs without making a profit or incurring a loss. The best way to explain the breakeven concept is to graph the relationships involved. Figure 10 shows these relationships.

Figure 10



The business is Jim's Wire and Cable, one of our fictitious companies. In the example the company is try to determine the BE point on the production of special aircraft cabling. The total cost (TC) line intercepts the cost (Y) axis at \$75,000 because TC can never go below \$75,000 (fixed cost). The total revenue (TR) line does start at the origin because TR can theoretically equal 0. The intersection of the two lines is the breakeven point. The shaded area below the BE point represents a loss for the company while the area above the BE point represents a profit. The horizontal line that intersects the cost axis at \$75,000 is the total fixed cost (TFC) line. The vertical distance between the TFC line and the BE point represents the variable costs incurred to produce the breakeven quantity. Though a relatively simple concept it is important to the manager, particularly at the small business level. It can tell him at a glance, without extensive analysis, how much sales it will take to stay even on any given venture.³⁴

In the area of cost-volume-profit analysis the major idea is the contribution income statement. The statement is constructed in terms of the contribution margin for each product of product line. The statement is used to assess the influence on income of changes in sales volume or costs. Figure 11 shows an example of this analysis on a product from Hydraulic Parts. The product is a hydraulic coupler

³⁴Kenneth P. Sinclair and James A. Talbott, Jr., "Using Breakeven Analysis When Cost Behavior Is Unknown," Management Accounting 68 (July, 1986), p. 52.

used on farm machinery. The two sales figures are for the worst case condition and the expected sales level. Notice the large increase in profits for a relatively small increase in sales. Income increased by

Figure 11

WORST CASE

Sales (4,000 units)	\$60,000
Variable costs (\$8.00/unit) ...	32,000
Fixed costs	25,000
Income	\$ 3,000

EXPECTED SALES

Sales (5,000 units)	\$75,000
Variable costs (\$8.00/unit) ...	40,000
Fixed costs	25,000
Income	10,000

\$7,000 for a sales increase of only \$15,000. What this tells the manager is that the worst case is close to the BE point. The 25% increase in sales brought a 330% increase in income. The value of this statement is its ability to tell the manager "how close to the edge" he is operating. Other ways to use this statement are to change the other variables to see what influence they have on income.

Two other pricing concepts that bear brief mention are skimming and penetration pricing. Skimming occurs when a new product is introduced for which there are no immediate substitutes. The initial price of the product is high to gain as much profit as possible while

competition permits. Subsequently, the price will be dropped as competitors develop comparable products.

The opposite strategy from skimming is penetration pricing. Penetration pricing occurs when the initial price is very low. This technique is used to quickly build market share in anticipation of higher profits in the future. A good example of penetration pricing is "low, introductory prices". Either of these techniques may be used with success by the small businessman marketing a new product.

In this chapter pricing policies useful to the small business have been discussed. Cost-plus pricing has been seen to be an easy to use method of setting prices in non-sophisticated situations. In more complex settings the contribution approach is appropriate. Breakeven analysis and cost-volume-profit analysis are two techniques used to determine whether to continue making or selling a product and what quantities have to be sold to generate a given level of income. Last, skimming and penetration pricing were briefly discussed as policies to consider when pricing new products.

Each pricing situation is different. There is really no "correct" method to use. The individual businessman must decide for himself how to price his goods or services. He must be sensitive not only to his competition but also to the customers perception of his motives as set forth by his pricing policy.

Chapter V

Summary and Conclusions

One of the cornerstones of American society is the right to start and own a business. This study has attempted to address an important issue in American business, the high failure rate of new small businesses. Various sources, including the U.S. Small Business Administration and Dun and Bradstreet, have estimated that 204,000 new businesses are formed each year, along with over 702,000 incorporations of existing businesses.

With the new businesses come over 143,000 documented business failures.³⁵ Dun and Bradstreet estimates that over 50% of new businesses fail in the first five years, primarily due to management shortcomings. Chief among the shortcomings are failure to control costs and inability to compete in the marketplace because of poor pricing practices.³⁶

The arguments in favor of this study are primarily the statistics establishing the magnitude of the failure problem. Additional favorable arguments include the need to summarize the tremendous volume of information on the subject and the need to present it in a format the small businessman without a business education background can easily understand.

³⁵U.S. Small Business Administration, The State of Small Business, Report of the President, 1987, pp. 7-9.

³⁶The Business Failure Record: 1976 (New York: Dun and Bradstreet, Inc., 1977), pp. 11-12.

A primary argument against the study is that the information is already readily available in various forms. Another negative argument questions the wisdom of attempting to compress the information in many text books and print articles into one short study.

This study has focussed on cost control and pricing issues for the small business. In the area of cost control both the absorption or full costing and direct costing methods have been explored. The positive and negative aspects of each method have been explored along with some recommendations on which situations each method might be appropriate for.

In dealing with cost control issues both the job shop (batch) and the process production systems were addressed. Two fictitious companies, Hydraulic Parts, Inc. and Jim's Wire and Cable, were used as examples of the two types of production systems. Cost control methods were applied to some typical situations at these two firms.

The absorption cost control method uses the principle that all costs are relevant. It charges variable and fixed overhead against product costs. Its proponents argue 'each unit of output must be charged a pro rata share of those costs.'³⁷

The absorption method can use either actual or standard costs as a basis for calculations. In using actual costs changes in volume can cause significant changes in the unit costs because the fixed costs remain the same and are charged at a higher rate per unit of output.

³⁷M. Ali Fekrat, 'The Conceptual Foundations of Absorption Costing,' Accounting Review 47 (April, 1972), p. 351.

The changes can cause management to think "something" is wrong. Subsequently, management takes action to fix the problem when no real problem exists.

Absorption standard costing eliminates some of the unit cost changes caused by variations in production volume. By setting standards for each cost item, fluctuations are reduced. This provides the small business manager with a more stabilized indicator of cost performance. Some type of standard cost system is in wide use for most types of businesses and is appropriate for the small business as well.³⁸

The direct costing method uses only variable costs in its calculations. Fixed costs are ignored for cost control purposes. They are considered period costs with no benefit arising from being included in product costs.³⁹

Direct costing also makes use of either actual or standard costs with standard costs used in most cases. The reasoning for the use of each method is the same as with absorption costing.

A key concept introduced under direct costing is the idea of contribution. Contribution, simply stated, is the amount the sale of a good or service provides towards the payment of fixed costs and accumulation of profit after variable costs are taken into consideration.

³⁸Michael J. Sandretto, "What Kind of Cost System Do You Need?," Harvard Business Review 63 (Jan/Feb 1985), p. 114.

³⁹Thomas S. Dudick, "Alternative Costing Methods for Reporting and Pricing Purposes," Journal of Accountancy 128 (October, 1969), p. 49.

There has been and continues to be a considerable controversy over the relative merits of the absorption and direct costing concepts. The controversy centers on the treatment of fixed costs and the responsiveness of each system to changing business conditions.

Advocates of absorption argue that fixed product costs would not be incurred "but for" production and should be included in product costs. They cite the fact that allocations of fixed costs are very widely used for pricing decisions.⁴⁰ Some absorption proponents also support the idea that the division of costs between fixed and variable components only makes sense in the short run.⁴¹

Direct costing advocates argue vigorously against absorption costing saying it leads management to make short run production and profitability decisions based on fully absorbed costs when a decision based only on variable costs is more appropriate.⁴²

Direct costers also feel that incremental and breakeven analysis is easier with direct costing than with absorption.⁴³ They cite the fact that incremental analysis is only concerned with variable costs.

⁴⁰Michael J. Sandretto, "What Kind of Cost System do You Need?," Harvard Business Review 63 (Jan/Feb 1985), p. 110.

⁴¹M. Ali Fekrat, "The Conceptual Foundations of Absorption Costing," Accounting Review 47 (April, 1972), p. 351.

⁴²William E. Arnstein, "Direct Costing-Today and Tomorrow," CPA Journal 45 (May, 1975), p. 69

⁴³Richard W. Swalley, "The Benefits of Direct Costing," Management Accounting 57 (September, 1974), p. 14.

The author, in researching the arguments for and against each of these systems, has found each group of advocates adept at presenting plausible arguments in favor of their viewpoint. This leads the author to believe the controversy is not so controversial after all. Others believe the same. Citing the fact that both systems require the same core of financial and cost data, at least one author has stated "it is easy to construct a computer spreadsheet that will generate the profit analysis report each period conveniently and inexpensively."⁴⁴

Each method has elements that are essential for the small businessman to use in maintaining his profitability. Absorption recognizes the importance of fixed costs while direct costing recognizes the cases in which fixed costs are not relevant. Modern computer technology (especially the microcomputer) makes it possible to "massage" the information any way required to produce the needed management control information. There is no reason the two methods cannot be used together.

In addressing pricing methods in this study the motivation is not so much that there is a controversy over the use of any one method.

Rather it is the need to educate the small businessman on the various means of price setting open to him.

⁴⁴William C. Lawler and John L. Livingstone, "Profit and Productivity Analysis for Small Business," Journal of Accountancy 162 (December, 1986), p. 196.

Pricing methods explored include cost-plus and the contribution method. Breakeven analysis and cost-volume-profit analysis were also discussed as important ways to determine profitability. Last, new product pricing practices of skimming and penetration were briefly discussed.

Cost-plus pricing is an easy to use method applicable to either the absorption or direct costing methods. It simply involves setting a markup on whatever cost basis is used. It does not contain any pitfalls and is useable in a variety of situations. It is a good starting point in gaining a handle on pricing.

Contribution pricing, an application of the direct costing method, was discussed as a preferred method of setting prices in cases where idle capacity is being used or where discounting is necessary to generate sales. The basic tenet of contribution pricing under these conditions is that any price in excess of the variable cost of production "contributes" to the payment of fixed overhead and the realization of profit. The businessman (not just the small businessman) must guard against using full product costs to make marginal decisions in situations involving idle capacity or discounting.⁴⁵

Breakeven analysis and cost-volume-profit analysis (CVP) are both useful methods for evaluating pricing options. Breakeven analysis

⁴⁵Thomas S. Dudick, "Alternative Costing Methods For Reporting and Pricing Purposes," Journal of Accountancy 128 (October, 1969), p. 53.

answers the question of how many units must be sold to break even. Cost-volume-profit analysis forms the relationship between cost, sales volume, and profit. CVP answers the question of what happens at differing levels of production and sales.

Pricing is an important aspect of the business environment that goes hand in hand with cost control. It becomes a problem only if the determinants of price are not recognized.

The statistics paint a sad picture of the chances of a new business succeeding in today's world, particularly the small business. Yet thousands hit it rich every year. What is their secret?

The author submits that those who do strike it rich use the principles embodied in this study. They apply them everyday to their business situation. The author also suggests that many successful businessmen apply these principles before they make the decision to form a new business. Perhaps this is where the real emphasis should be.

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