San Fernando Valley State College

A STUDY IN THE USE OF BUDGETING TECHNIQUES AS A KEY TO A TOTAL MANAGEMENT INFORMATION SYSTEM FOR SMALL MANUFACTURERS

A thesis submitted in partial satisfaction of the requirements for the degree of Master of Science in Business Administration

by

George John Hartman

June, 1967
The thesis of George John Hartman is approved:

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Committee Chairman

San Fernando Valley State College

May, 1967
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ABSTRACT

A STUDY IN THE USE OF BUDGETING TECHNIQUES
AS A KEY TO A TOTAL MANAGEMENT
INFORMATION SYSTEM FOR SMALL
MANUFACTURERS

by

George John Hartman

Master of Science in Business Administration

June, 1967

The objective of this study is to investigate the
limits and use of budgeting techniques by small manufac-
turers as part of a total management information system.
From the expansion, improvement, and application of
budgeting as a management tool by large businesses the
present structure of budgeting is formulated and integrated.

The description of the structure includes budgeting
principles, the integration of accounting and budgeting,
using direct costing for decision making, and the building
and follow-up of budget techniques for a total management
information system concept. The basic hypothesis of the
study is that the small manufacturer or businessman should
use budgeting techniques as the key in a total management
information system for decision making.
The approach of the study is to seek evidence in the support of this hypothesis in (1) the development of a simple set of guides through the use of budgeting techniques, and (2) the use of these guides in a total management information system for decision making.

The basic hope underlying this study is that the small businessman will understand, use and integrate his budgeting techniques so as to provide solid management information.
CHAPTER I

INTRODUCTION

Statement of the problem: Although small business today is the foundation of a changing and dynamic economy, few of these firms formally or informally plan their future. They simply are on their way. No continuous effort is made to chart a future course.

If the small business executive would give careful study and attention to planning his activities in advance, operations could be more efficiently conducted and profits would be greater. Success in the planning and alternative planning activity to bring about a realization of objectives and resulting business success requires correct decisions. Yet many small business decisions are made day to day without benefit of quantitative or qualitative data for decision making. In many cases the decision making process is intuitive and therefore involves a high degree of risk.

The odds are against small business success. There is no panacea for the inherent drawback of smallness. Dun and Bradstreet says that failures are due to incompetent management. It is not expected that the problem can be
solved but that suggestions contained herein can be helpful. The Small Business Administration and the American Management Association have developed many aids to assist both large and small businesses.

In a survey of 243 small businessmen in New Jersey, USA, the three types of firms studied - manufacturers, wholesalers, and retailers - all reported major problems in the areas of competition and personnel. Tabulated below are the results of that survey made by the Small Business Administration.

TABLE 1

CLASSIFICATION OF MAJOR PROBLEMS

(Percentage of respondents reporting)

<table>
<thead>
<tr>
<th></th>
<th>Manufacturers</th>
<th>Wholesalers</th>
<th>Retailers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competition</td>
<td>21</td>
<td>11</td>
<td>63</td>
</tr>
<tr>
<td>Personnel</td>
<td>14</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Production</td>
<td>18</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Financing</td>
<td>11</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Collections</td>
<td>3</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>Space acquisition</td>
<td>-</td>
<td>11</td>
<td>-</td>
</tr>
<tr>
<td>Parking</td>
<td>-</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td>Neighborhood deterioration</td>
<td>-</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>Renovation-store modernization</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Relations with manufacturers</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Misleading advertising</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Merchandising</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>No problem</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>70</td>
<td>40</td>
<td>133</td>
</tr>
</tbody>
</table>

This study is concerned with the very core of budgeting - its association with the functions of the manager and the fulfilling of these functions.

The statement of the functions of the manager suggests the parameters of this investigation. However, managerial principles will not be investigated. Those used will be considered as recognized and accepted. The investigation of the techniques of budgeting will be those recognized by professional, educational and industrial organizations as acceptable. Not all of the techniques recognized will be investigated or used, only those considered economically feasible, easily understood, and simple in design will be suggested. Nevertheless, such techniques as are used will be all encompassing of the small business enterprise.

Thus far this discussion has included a statement of the problem and a sketchy outline of the study. Now attention will be directed to the supporting evidence or justification for this study. Evidence will be submitted from current writings to support (1) that the study should be conducted (2) and that a theoretical and scientific approach is warranted.

The need for the study: Because small business is becoming more complex and competitive (see Table I) it is
imperative that managers use all of the tools and techniques available to them to meet these challenges. This complexity has created an insatiable desire on the part of managers for more and more information for decision making.

Late information cannot fill management's needs. The challenge, therefore, is to develop a system to meet the needs of management. Such a system must consider each application and each function as a part of an integrated management information system.

As competition becomes more aggressive, many of today’s firms and more than 50% of the new enterprises will fail. According to Dun and Bradstreet, the pattern will be similar to that shown in Table 2:

Table 2

<table>
<thead>
<tr>
<th>Number of Firms</th>
<th>Age in Years</th>
<th>Percent of Failures</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>96</td>
<td>1</td>
<td>3.5</td>
</tr>
<tr>
<td>75</td>
<td>2</td>
<td>17.4</td>
</tr>
<tr>
<td>63</td>
<td>3</td>
<td>16.2</td>
</tr>
<tr>
<td>51</td>
<td>4</td>
<td>11.4</td>
</tr>
<tr>
<td>43</td>
<td>5</td>
<td>8.7</td>
</tr>
</tbody>
</table>

A Small Business Administration study found that:

Failure, the study found, was rarely due to: lack of capital; inability to collect from customers or overextended credit; lack of a market or unsuitability of product; poor records; competition; union trouble or shortage of skilled labor. It was often caused by the management's inadequate training, experience, or ability.³

The need is to provide the small business manager with a simple set of guides within the capabilities of the firm that will assist him in the process of decision making to meet complex competition and thus prevent failure.

This problem is receiving increased attention these days. For the past 10 years dramatic developments have upset many of our time honored concepts and introduced wholly new techniques. The catalyst for such changes has been the invention and development of the electronic computer. The computer has opened new frontiers for data processing and data analysis and has permitted greater emphasis on scientific approaches to business problems than ever before.

The small businessman is faced with on-the-spot decisions as a result of this mechanization. He must establish an information system concept that can be readily adaptable to

the use of the computer when the growth of his business justifies the expenditure for computer acquisition or service to meet competitive decision making. The further development of the computer requires that manufacturers gear their efforts to meet the requirements of that large market of small businessmen.

Since failure could be due to incompetent management, the importance of the problem can be expressed by the motto of the American Institute of Management — "Management is everything". The Institute quotes:

Management is the art of bringing ends and means together - the art of purposeful action.\(^4\)

As Appley states in his preface to Management for the smaller Company:

The essential ingredient in company survival at any size level - is effective enlightened management.\(^5\)

Another proponent of effective management states:

A new idea in governing the affairs of business enterprise has recently become more widely accepted. It is that a manager of a business can make trends rather than follow them. In


an important degree he can decide what he wants his company to be and then achieve it.6

It is important that the small business, like large business, have established standards to assist in decision making. The small business executive must make quick decisions; he cannot afford the luxury of a long and delayed analysis. A readily available tool is needed to assist him. Such a tool should increase the probability of his success in decision making and reduce the incidences of failure.

Hypothesis

Hypothesis: The manager of a small manufacturing concern should use budgeting techniques as the key in a total management information system to assist him in the decision making process.

Test: The development of a simple set of guides through the use of certain budgeting techniques consisting of the analysis and establishment of the:

1. Principles and methods of budgeting.
2. Techniques in building the small business budget.
3. Coordination and follow-up techniques.
4. A model using these techniques.

The establishment of these guides is within the operational framework of small business. Continuous improvement, and recognition of both operational and product changes can cause adjustment to the standards. However, the adjustment required is purely a statistical one and can be made quickly.

Approach to the Study

Approach to the study: The nature of the approach to this study is both theoretical and scientific. The theoretical aspects are related to budgeting principles and methods.

Before considering the scientific method as applied to this study, a statement of the scientific method by Cohen and Nagal follows:

Scientific method is thus the persistent application of logic as the common feature of all reasoned knowledge.

Further:

Scientific method is the only effective way of strengthening the love of truth. It develops the intellectual courage to face difficulties and to overcome illusions that are pleasant temporarily but destructive ultimately. It settles differences without any external force by appealing to our common rational nature.

The way of science, even if it is up a steep mountain, is open to all.

It is submitted that the scientific approach to managerial decision making through the use of budgeting techniques is a commonsense approach for this study.

The philosophy of the approach, however, must be uncomplicated and simplified enough to be within the realm of the small business manager's perception and pocket book. The intent of the thesis is to present a program which will facilitate the process of decision making and lead to eventual success for the small business manager. The small business manager needs a program that is flexible, accurate and reliable.

Definition of Terms

**Budget**: A budget sets up yardsticks which measure the performance of individuals and of organizational units.

**Standard**: A scientifically determined allowance which provides a basis for measuring performance.

**Small Business**: As defined by the Small Business Administration effective July 1, 1965:

- **Manufacturing Concerns**

  1. If you have under 500 employees, you are a Small Business (average employment for year including the employees of domestic and foreign affiliates.)

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8 Ibid.
2. If you have over 1,000 employees, you are a Large Business.

3. If you have between 500 and 1,000 employees you may be either Large or Small, depending on the industrial classification of the product that you make. These industrial Classifications and size standards are outlined in the current Federal Register. ¹⁰

For purposes of this study we shall accept item 1 of the SBA definition, but with no less than 250 employees, and annual sales volume of less than $5,000,000. Such an organization will have a manager in charge of each function.

CHAPTER II
BUDGETING PRINCIPLES AND METHODS

Budgeting principles and methods are essentially the same for large or small business. Whether large or small, a successful management information system, with the budget as its key, has its deep roots in managerial principles and is a reflection of a problem involving people. However, techniques - the way managerial functions are carried out - do differ in a large or small business.

Small Business Administration (SBA) studies reflect that small manufacturers have certain advantages and disadvantages because of size. Within the segments of business where the advantages of large scale operation apply, the large companies generate a competitive strength which a small business cannot counter.¹ This does not mean that the advantage exists everywhere in the economy. Small size has an advantage in areas where total national product demand is of the order of $1 million to $5 million. No one company is going to control this volume. No large company has reason to be in this market and very small companies cannot compete.

for this kind of business. Some products are manufactured and sold more advantageously within a specific region. The regional volume often will not warrant the overhead nor the special effort required to compete through delegated responsibility and a decentralized organization of the large manufacturer. Where short runs by large manufacturers are detrimental to their efficiency, to the small manufacturer these are long run production items, providing for time and motion studies, establishment of standards, and reports for good management. High precision manufacturing with close tolerances are areas for the small businessman's consideration because of the small manufacturer's direct management characteristics. Small manufacturers have an advantage for quick decisions if the owner-manager effectively uses the close contact with his production, sales and administrative departments. 

SBA reports are building up a formidable file on small businessmen. These show that he is surprisingly ignorant of accounting and financial controls. It is important for a manager to know how well he is doing, but perhaps even more important he wants to know how to do better. Getting useful information is not simple, but unless the

information is geared to the decisions and actions facing the small manager he will not see much use for it. This is not true in all cases.

Small business managers typically perform several managerial functions; indeed a small business has been defined as one with versatile management. In his pursuit of the consumer's money, he has a product, some money, a reputation, a brand name, or an available market. His most important resource is himself: his time, his energy, his ability. The way he applies these personal resources is crucial to his success. He may be an expert machinist whose shop gets business because his work is of high quality and because he figures out the cheapest way. He may be a poor salesman, have only a minimum management ability and lack organizational skills. If a manager can surround himself with people who have product skills, customer skills, managerial skills, and can inspire them to work effectively for him and the business, he may overcome many of his own deficiencies. He will be wise, therefore, to make his business the kind of operation which needs the skills in which he has most competence and to use his own time to do the things he can do best. In order to do this he must take time to take an objective look at his business.

A management information system concept with the
budget as the key can do much to overcome the small business disadvantages by keeping the small businessman informed daily, weekly, monthly, annually and longer about all important facts of his business. Further, such a system will give him time to take an objective look at his business without sacrificing his technical skill in producing a quality product. Such a system can be the coordinating link between the planning and control function, and the means of unifying his organization into a cohesive team for survival and growth.

Planning

Purpose: Management means looking ahead. This conveys the importance of planning. To foresee means to assess the future and make provision for it. Planning is indispensible to a business, and its effects can only be measured by experience and success. However, certain broad characteristics of the managerial function of planning can be agreed upon. These are unity, continuity, flexibility and precision. The small business manager must take the initiative for planning. He must set objectives involving both long and short range plans for the entire concern and for each of its subdivisions. Glenn A. Welsh emphasizes:

A significant phase of effective management involves careful consideration of alternative courses of action and finally a choice based on
an adequate analysis of the effects, direct and indirect, of each alternative. Essentially, managerial planning consists of basic decisions to pursue particular courses of action selected from several possibilities.

It can be said that the budget function is designed primarily to accomplish short range plans of about a year. This program is integrated into the broader objective of long-range plans of from five years and beyond, depending upon the type of company. The length of the long-range planning is determined primarily by decisions being made in short-range planning period. To extend long-range planning beyond short-range decisions is merely a mental exercise for the statistician. The short run needs of the firm are profits and adaptability. The long run goals are profitable survival and growth. The importance of bringing all members of management into the planning function cannot be overemphasized. The participation of these people in the planning process created interest, enthusiasm and a spirit of cooperation. They then have a clear understanding of how their particular function fits into the overall picture. Then they can keep lower line supervision informed as to the plans and future objectives, problems, and other considerations of the business enterprise. James Pierce states:

Budgeting rests on principles which have more in common with concepts of human relationships than with rules of accounting.\textsuperscript{4} 

Therefore:

Insist on a clear cut organization structure. A Budget system cannot thrive without it. Each department should have a responsible manager, vested with authority commensurate with his responsibility. He should have a clear understanding both as to the individual to whom he reports and as to the people who report to him... The limitations on budget success are precisely marked by the degree of organizational soundness.\textsuperscript{5} 

As part of the planning process the manager should develop a simple formal organizational structure as shown on the following page to facilitate the flow of communication in his company.

In budgeting it is without a doubt that attitudes are the key to successful communication. The attitude that must permeate the entire organization is one of unity of objective. This is no easy task. There must be unity of command which provides that each person at any level of an organization has one and only one boss. This provision eliminates much friction and confusion. Each employee knows exactly to whom he is responsible and where his action originates. The span of control principle, when placed in practice, facilitates direct communication by the manager to the employee. However:

Plans alone cannot make an enterprise successful. Action is required; the enterprise must operate.


\textsuperscript{5}Ibid. p. 58.
A simple organization structure and chain of command for a small manufacturing concern might appear as follows:

1 Owners
   Stockholders
      Board of Directors
         President
            Operations
               Sales
               Manufacturing
                  Minor Dept. Supervision of Non Supervised
                     Minor Dept. Supervision of Non Supervised
                        Employees

1 Establishes Objectives
2 Accountable to Stockholders
   Owners

1 Operates business to accomplish objectives
2 Accountable to Board of Directors
   Establishes Objectives
   Owners

1 Overall coordination of activities necessary to accomplish objectives
2 Accountable to President
   Operates business to accomplish objectives
   Establishes Objectives
   Owners

1 Supervision of non-supervised employees
2 Account to next top level
   Supervision of non-supervised employees
   Supervision of Supervision of Non Supervised
   Operations

1 Non-supervisory employees
2 Accountable to Supervisors
   Supervision of Supervision of Non Supervised
   Supervision of non-supervised employees
   Supervision of Supervision of Non Supervised
   Operations

Fig. 1
Suggested
Small Business Manufacturing
Organizational Chart
Plans can, however, focus action on purposes. They can forecast which actions will tend toward the ultimate objective, which tend away, which will likely offset one another, and which are merely irrelevant. Managerial planning seeks to achieve a consistent, coordinated structure of operations focused on desired ends. Without plans, action must become merely random activity, producing nothing but chaos.\(^6\)

Planning, therefore, is only as good as its execution. Objectives must be achieved with a minimum of untold consequences and with results that are greater than costs. This is particularly true in small business.

**Policy Formulation:** The underlying objective of a business enterprise is a maximum return on resources or capital employed in it. Top management should establish this objective as the basic yardstick for all results and instill in all managers a sense of urgency with which working capital is turned over. Goals for these should be developed using industry surveys where pertinent, and concrete targets should be set for such items as gross profit rates, plant utilization and inventory turnover. The circumstances of the company's markets may indicate that it should obtain a certain proportion of business in particular areas to prosper or survive, or that it should grow at a certain minimum rate. Other areas of policy formulation must be decided if the business is to gain its objectives. There are sales produc-

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tion, finance, personnel and public relations.

In the sales area perhaps product considerations are most important since the success an enterprise has in marketing its product will probably determine, more than any other factor, the profitability and stability of the firm. Closely related to marketing is the pricing policy, not only determining basic prices but discounts as well. Sales promotion policies including advertising, packaging, grading, sampling, or other programs or devices are important too.

Production policies are usually based on sales policies. This is particularly true in regard to products. Make vs.-buy decisions are short run policies that are critical to the manager. Next, where production is continuous and product quantities are large, the size of production runs become significant. The outgrowth of these decisions largely affect another most important aspect of business: inventories.

Having established sales and production policies, another major policy determination which sets limits to expansion and can curtail certain business aspects is the company's capital or financial resources. Should equity financing be sought or should borrowings prevail? For the small businessman, it is unfortunately true that long term borrowings are out of the question. The owner is generally limited to capital expansion through friends, his own
resources or profits generated. In many cases friends want equity commensurate with their investment. Fixed asset acquisition decisions are reduced to owning versus leasing. Leasing is a way of conserving working capital.

Personnel and public relations policies are paramount in supporting a budgetary program. Personnel policies relate to the staffing function and include selection training, promotion, compensation, employee benefits, and union relations. Public relations in small business is related closely to supporting local institutions, charities and educational organizations.

Strategy requires that the skillful manager shift his plans as a result of moves created by opponents and others in his environment. A program of detailed action is needed to implement the strategy. This is the reason for aids to assist the small businessman in quick and successful decision making.

The budgeting process puts into effect policies which have been established in each of the functional areas as indicated. Until such policies have been delineated, a budget cannot be prepared.

Control

Prerequisites: When the manager has established complete, precise, flexible, continuous plans and when he has
established unity of objective and when he has arranged his organization by giving necessary and coordinated authority to the subordinates who are expected to accomplish the task, then he can institute his control system.

**Requirements:** Controls must reflect the nature and needs of the activity. A small business will need different controls from a large one. Techniques such as budgets, breakeven points, standard hours, etc. should never be assumed as being uniformly applicable to a particular control area. The selection of proper techniques coupled with strategic factors is the task of the manager in evaluating plans and operations.

Control devices must report deviations expeditiously. The ideal system is one that reports probable deviations before they occur. The information must reach the manager as soon as possible so that he can take action to head off failures.

Controls must be flexible and workable in face of changed plans, unforeseen circumstances or failures; therefore, the budget system as part of the information concept must reflect sales variations as well as other deviations from plans if they occur. It is absolutely necessary that controls reflect the realities of the organizational structure. Organization is the vehicle of coordination and execution and
the means of control. Cost accounting and budgeting data must be accumulated in such a way that deviations can be fixed and responsibility determined for performance.

A limiting factor to control systems is relative economy. The manager, therefore, will select these strategic factors which appear important to him.

Controls must be understandable to those who will use them. Those devices that a manager cannot or will not understand are ineffective. Because people and managers vary in their knowledge, simplicity and adaptability must be used if a successful system is to be achieved. The managerial functions of planning and control are the major components of budgeting. Follow-up on performance, a chapter on this thesis, will convey detailed aspects of control.

Accounting and Budgeting

By placing emphasis on his accounting information and by adding a few simple budgeting statistical devices the small business manager can become more educated in the use of the data. He can fix responsibility for poor performance and manage through the exception principle. By continuous examination of accounting and integrated budget information, he can relate the data to operations in an understandable way. Through this process he will become familiar with the
value of the information for financing his future growth.
The small business manager is not concerned with a separation of the budgeting and accounting functions as might be the case in a large company. No problem of line and staff relationships are involved, nor need he be concerned about the sophistication of this system.

The size of the concern has little bearing upon the necessity for budgeting. Many smaller concerns fear that a formal budget procedure involves too much red tape. Any intelligent planning and control of business requires extensive study, be the company large or small, but there is no substitute. The small concern has the advantage of close personal supervision and direction, but this is not a substitute for intensive study as to what has been done, what should be done, and how best to do it. The procedure is easier in the small company but no less important.7

The design of new measuring sticks and their integration with conventional accounting information can provide quantitative data for the small business manager to assist him in the process of decision making. In small businesses, many methods of analysis have been and are available, such as standard costs, pricing costs, product line accounting, return on capital employed, make-or-buy accounting, and management reports among other. These methods of analysis are often not coordinated into a hard-hitting package for maximum effective-

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ness. The additional costs required by the small business to accomplish this coordinating task would be hardly measurable in view of the great benefits to be derived.

Casting data of this type to flow through the management information system is the answer to the problem of small business which has talent, know-how, aggressiveness, courage, but which seems to be losing it all because of poor communications. In the absence of significant data, managers rely on "feel" to run their businesses. But this time worn method is outmoded. Today business, small or large, is much more complex than it was twenty five to fifty years ago.

The integration of accounting and budgeting into a total management information system dare not be described as historical and therefore past. Such a system must use the past in the present to deal with the future. Business is dependent upon the decisions, accomplishments, and attitudes of the key managers, which must be coordinated and properly evaluated for day to day decisions vital for success. The ability to anticipate quickly based on clear and simple, but hard-hitting understanding of the facts, is the key to profitability.

A good accounting system implies common sense accounting. The owner-manager is more concerned with operating facts than with the mere recording of transactions and the balancing of
books. The accounting department must perform a service to operating personnel in complete, simple, and prompt explanations of operating data.

Nothing confuses supervisors (those lacking in understanding of accounting terminology) more quickly than being held accountable for expense over which they cannot exert a significant influence. A chart of Income and Expense accounts must be tailored to facilitate budget information, tax information, and computer adaptation. Complete definitions of what the accounts mean and the examples of charges that will be made to these accounts should be published and distributed throughout the entire organization, particularly to those charged with departmental responsibility. In general, supervisors can understand labor accounts - direct and indirect - since these involve people assigned to particular jobs; but indirect expense classifications not well defined are a continuous source of irritation. An example of a good Chart of Accounts is given in the Appendix to this thesis.

Someone must be definitely placed in charge of an information system. In a small business the treasurer, the controller, or the chief accounting officer is the logical person to assume this responsibility, because, in the final analysis, all planning must fit the financial resources of the company. However, the title of this individual could
be Operations Director, (Fig. 1, Chapter II) or it could be the owner-manager, i.e. the key to the coordination of the total management information system. His primary responsibility is the development of a detailed plan of operations or budget to support the profit objectives. This detailing includes sales objectives, and cash objectives. He must stress active participation in the planning at all levels. He must see that lower level supervisors participate by actively developing or reviewing plans for the area supervised through his major functional departmental managers. Further, he must see that successive screening and coordinating of plans occur at each higher level of management until finally approved by top management to become a unified profit objective. This communication process is two way, both up and down; and it occurs in meetings and conferences both in the planning stage and in variance analysis. His primary objective is the motivation of people in accomplishing the unified objective. The art of leadership must be added to the science of budgeting techniques so that the budget or control techniques do not manage but that people do.

Costs

_Nature:_ It is not the intention of this thesis to delve extensively into the nature of costs, but some comments would seem desirable for background information as to the types of costs. First, costs are incurred by a business in
obtaining income. Examples of costs are:

1. Deferred costs are fixed assets and inventories to be charged against future period income.

2. Expenses are current period costs such as salaries.

3. Losses are reductions in firm equity not covered by insurance such as a fire loss.

All costs may be treated in one or two ways, i.e. written off or capitalized since budgeting is concerned with operating results. It would be well to review the flow of these two types of costs into the income statement. An illustration by Backer and Jacomsen is shown on the next page.8

Types: Any company must look in two directions in controlling its costs: (1) Unit costs on individual final products and (2) Processing and other costs incurred by each department in turning out those products. These two types of cost must be controlled. Unit Costs must be controlled so that individual products may be kept profitable or dropped if they become unprofitable. Obviously, no product should be sold for long if its cost is too high. Departmental costs must be controlled so that inefficiencies will be identified before they have time to affect unit costs seriously. The direct aid of all department heads can be enlisted in the job of cost controls at the point of incurrence.

Cost Expenditures or Accruals Applicable to Income Statement

Factory Costs

Inventoriable or Product Costs (Materials, Direct Labor, Factory Overhead)

Product Costs

Cost of Goods Sold

Factory and Non Factory Costs

Fixed Assets (Buildings, Machinery, Trucks)

Depreciation

Non Factory Costs

Expense Items (Adm. Salaries, Legal, Advertising, Warehousing)

Period Expense

Marketing Selling Gen. & Adm. Expenses

Fig. 2 Expenditure Flow
To establish a model for future use, let us accept the name XYZ Company, the formal organization in Fig. 1, a fiscal year as the calendar year, the Chart of Accounts in the Appendix, and the products and departments illustrated in Fig. 3 on the next page. Fig. 3 also shows the relationship between the two cost types just described.

Expense Characteristics

Expenses are costs applied against income of a given period. Upon analysis of the various separate classifications of expense which make up the total of Manufacturing and Sales Expense, it will be found that these do not all possess the same characteristics. In particular, it will be evident that their performance under changing levels of operation will not follow a common pattern. On closer study, all of these expense classifications will fall into one of the three following groups:

Variable Expense: This group of expenses will vary almost directly in proportion to the level of operations, and will include such expenses as Manufacturing supplies, Perishable Tools, Inspection, etc.

Fixed Expense: Expenses in this group will be found to remain constant at practically all levels of operations. Examples are Property Taxes, Depreciation, Rent, etc.
Unit Costs or End Products

PRODUCTS

Product A
Product B
Product C
Product D
Product E

POOL OF COSTS FOR ALL PRODUCTS AND DEPARTMENTS

Departmental Costs

- Production 10
- Inspection 14
- Production Control 16
- Plant Maintenance 19
- Sales 70
- Corporate Operations 80

Fig. 3 Relationship of Cost Types
Semi-Variable Expenses: A third group of expenses will be found which vary to some extent with changes in level of operations but not directly in proportion to such changes. Typical of this group would be Supervision, Maintenance, Light and Power, etc. It will be found that a portion of this type of expense will be incurred even if operations go to a zero level. Because this amount is incurred irrespective of changes in volume, it is known as the Fixed component of the expense. The additional amount incurred as volume increases is known as the Variable component. Hence the title "Semi-Variable", is useful here.

The behavior pattern of these three types of expense under conditions of fluctuating volume is illustrated in Fig. 4 on the next page. Each of the expenses is shown as a straight line, whereas it is probably true in many cases that the precise pattern followed is a curve or a series of steps. However, the practical advantages of dealing with expenses on a straight line basis greatly outweigh the disadvantages of relatively minor deviations from a more complicated theoretical pattern.

Budget Selection

There are available for use by the small business manager of a manufacturing concern three principal types of budgets:
"VARIABLE EXPENSE"

Expense
Dollars

CHART 1

"FIXED EXPENSE"

Expense
Dollars

CHART 2

"SEMI-VARIABLE EXPENSE"

Expense
Dollars

CHART 3

Fig. 4 Effects of Volume on types of Expense
**Fixed Budget:** Under this method, assumptions are made as to anticipated levels of operation over one or more future periods. Based on these assumptions, a determination is made as to the appropriate amounts, or "Budgets", of various classes of expense for each period involved. This method thus produces budget amounts applicable only to the particular levels of operations for which they were determined, and if such levels do not materialize, comparison of actual with budgeted expenses may produce misleading results.

**Step Budget:** Under this approach, budgets are set as a series of amounts, each applicable to a limited range of activity. This is a refinement over the "Fixed Budget", but because of the width of the "ranges" to be covered, may still fall short of providing the most useful measure of proper performance under all conditions.

**Flexible Budget:** This method represents an attempt to eliminate some of the short-comings of the first two approaches and to provide a means of closer control. Under this approach, budgets are set, not as fixed amounts, but as "Budget Standards", or "multipliers", which, once established, can be readily applied to any assumed level of activity to determine the allowable amounts of expenses appropriate to such level. These may be expressed in terms of manpower, hours, or dollars, as desired.
Selection of Budget Standards

To select flexible Budget Standards to be used for the determination of allowable expenses at various levels of operation, it is obvious that such standards must take into account the differing characteristics of the three types of expense described on page 29; otherwise, an unrealistic measure will be set up. For example, to select a Budget Standard expressed as a rate per Standard Productive Labor Hour for use in measuring a fixed expense, would result in increasing or decreasing the amount of allowable expense as the operating level changed, whereas, in fact, the allowable amount should remain constant irrespective of such changes.

From a consideration of the charts shown on page 32, it is evident that the appropriate types of Budget Standards for each of the three types of expense are as follows:

**Variable Expenses:** The Budget Standard should be expressed as a rate per unit of base activity. The appropriate Standard to express the Variable Expense shown in the first graph on page 32 would be:

- **Fixed**  $-0-$
- **Variable**  .25 (per Standard Productive Labor Hour)

**Fixed Expenses:** The Budget Standard should be expressed as a fixed sum of money per Budget period. The
appropriate Standard in the case of the second graph on page 32 would be:

Fixed $2,000.00 per month

Variable -0-

**Semi-Variable Expenses:** The Budget Standard should be expressed as (a) a fixed sum of money per month, plus (b) a rate per unit of base activity. In the case of the third chart, the appropriate Standard would be:

Fixed $2,500.00 per month

Variable .20 (per Standard Productive Labor Hour)

The determination of the various expense classifications in a given department as Variable, Fixed, or Semi-Variable and the development for each expense of appropriate Budget Standards of the types just described must be recognized.

**Selection:** In the total concept of the management system, the budget comprises the total plan for the measurement and manipulation of the total data input. It is important to understand that the budget plan should consider such tools as:

- Standard Costs
- Inventory Control
- Production Control
- Marginal Contribution and Breakeven Analysis
Value Analysis

Investment Analysis (Return on Investment)

Responsibility Reporting

Sales Forecasting

In other words whatever the planning and control tool may be, it can and should be fitted into the overall master plan represented by the budget. Some examples are these:

Standard costs for manufacturing material labor, and overhead are fitted into the budget.

Inventory control techniques are reflected in the requirements for budgeted inventory levels.

Responsibility reporting concept provides management with a clear cut definition of who is responsible for off plan results and for correcting deviations from plan with certainty and swiftness.

Before selecting the type of budget to use, the owner-manager must review the flow of work in his manufacturing concern. (See Fig. 5)

Study of the work flow might suggest that all three types of budgets could be used. For example, if new facilities were to be programmed to meet increased volume undoubtedly
Fig. 5 Work Flow
A fixed budget could be established limiting the expenditure to existing cash availability or to some minimum amount of financing. The new product budget could be based upon a moving average of revenues obtained quarterly for product development. However, these types of budgets can be used within the framework of a flexible budget program. The flexible budget permits a more adaptable use of budget principles and techniques for the small business manufacturer who is faced with continually changing levels of activity. Except where specifically mentioned otherwise, this method will be developed.

**Conclusion**

The significant principles and methods key as outlined in this chapter suggest that the small business manager:

- **Give** his dynamic support to the program.
- **Establish** his budget system firmly in a foundation of company planning.
- **Motivate** his personnel to the highest possible level and use the budget as a means for measuring actual performance against plans.
- **Insist** on clear cut organizational structure.
- **Place** the program in the hands of his foremen and department heads and educate them in a mutual effort toward a common aim. Develop in them a psychic
reward in a sense of accomplishment.

Put into practice the meaning of the work control by obtaining the supervisor's commitment to perform in accordance with an agreed upon plan. Thus, they will understand that the budget will permit them to control their own operation.

Arrange for common sense accounting geared to responsibility and integrated with the budget program so that the two become one subject for discussion.

Recognize that methods of cost determinations must be understood by all those participating in the program. The nature of costs, expense characteristics and types of budgets are subjects for continued discussion, education and application. The degree of success of the program can be attributed to the judgment applied to these concepts.

It is submitted the the above mentioned budgeting principles and methods can assist the small business manager in his information system. When these practices are initiated there begins a dynamic effort to make figures simple, efficient, and meaningful. As a by-product, the entire team becomes more closely knit in its single common purpose of making the work flow result in profits so vital to the survival and growth of small business.
CHAPTER III
BUILDING THE SMALL BUSINESS BUDGET

The budgeting process in both large and small business is essentially the same; however, the complexity of the process is less in small manufacturing concern due to the shorter lines of communication and size. The degree of importance is no less in either concern. The cost is hardly of consequence when the benefits to be derived are considered in both concerns, large or small. The integration of budgeting as the key to the information system is one of using existing accounting, production, engineering sales, administrative information, and reports. Redesigning this information to include the scientific budget approach for decision making may be all that is necessary. In general, the same personnel can be employed or trained in using budget data.

In a small manufacturing concern as defined herein, all facets of the budgeting process are important just as they are all important in a large business. Unless a total emphasis is placed on each facet, failure is sure to result and a breakdown of the program will occur. Each part is vitally important to the whole. Emphasis cannot only be based on the production budget without the same emphasis on sales, etc.
The essential difference between a large and small management information system with budgeting as its key is one of degree only.

If the management information system is to be effective, it must place budgets in the hands of those responsible for the incurrence of expense and provide for periodic reports on performance in relation to such budgets. Because the "department" is the basic administration unit, it is desirable to build up the budget program from a departmental point of view. Therefore, procedures should provide for the establishment of budget standards for each department throughout the organization, and should cover each classification of expense which is subject to the control of the department head.

A standard cost system is similar to the concept of budget costs in that they both represent what costs should be as opposed to what costs have been. There are numerous opinions of what standard costs should represent. However, it is desirable that both budget and standard costs be based as much as possible upon scientific studies and high efficiency levels. There are several types of standard costs for our consideration.

**Basic or Bogey Standards** represent standard cost allowances set for the base year and
seldom changed.

Ideal Standards represent what the minimum cost should be under the best possible operating conditions.

Normal Standards represent what costs should be over a complete cycle of operations.

Expected Actual or Current Standards represent what the costs should be under normal expected operating conditions.

The integration of standard costs with a comprehensive budget program provides the basis for effective managerial functions.

Statement of Policy

Expected actual standards or current standards should be used for cost calculations in the planning budget; therefore, budget and standard costs are identical. Budget and standard cost variations are also identical. Based on a determination of normal plant capacity, a budget standard becomes a measure of a goal which can be reached but not likely to be exceeded. Budget standards should be set at top efficiency. This means that if 100% performance is achieved this is the optimum performance that is obtainable under existing methods. Even if agreed upon, the definition is
hardly adaptable to a mathematical formula. Therefore, sound judgment must be used in applying specific procedures for each class of expense.

Establishment of Budget Standards for Manufacturing Departments

Direct Materials: The setting of budget standards for raw materials involves: (1) determining the quantity and cost of raw material needed to meet the production schedule, (2) establishing the desired raw materials inventory level, and, (3) preparing the budget.

The quantities of raw materials needed to meet the production schedule are determined by multiplying the number of units of raw materials per unit of finished product by the scheduled production. The budget cost of raw materials used is calculated by multiplying the total number of units required by their standard costs.

The responsibility for setting these standards should rest with the production superintendent, subject to a check of historical data by the chief accountant. The chief accountant should contact the purchasing agent for the latest quantity price breaks, prices, etc. in case standards should be changed. These standards are historical and should be adjusted for recent or anticipated changes in price, production and design.
Direct Labor Standards: The setting of these standards presents no particular difficulty because there is a reliable yardstick in the form of the time study. This defines the standard in numerical values of pieces and time, both of which can be corrected or measured by trained observers. Direct labor is defined as the maximum rate of output at required quality which a skilled worker given adequate allowance for rest, satisfactory supervision, good methods and equipment, a continuous flow of raw materials, tools and supplies, can maintain throughout regular working hours, day after day, without injury to his health or danger to his safety.

This particular definition conforms to the general definition of a budget standard. It simply restates and amplifies the measures to be applied to a direct labor standard. The time study engineer must apply a uniform stringency to the interpretation of his time studies and his translation into correct and reliable budget standards for direct labor.

Expense Standards: An analogy to indirect labor and manufacturing expense budget standards suggests itself, but obviously a greater reliance on sound judgment will have to be resorted to, since the determination of these latter standards is not based on such specific data as direct labor standards. This is an inherent difficulty, no matter on what level or with what stringency these indirect standards are established.
It should be borne in mind that every standard represents reasonably attainable performance, no matter by what means the standard was established, be it by engineering analysis, historical analysis, judgment, or guess, or a continuation of any one of these approaches. Whether it is a temporary or an engineered standard, the same degree of stringency applies. Is the standard the measure of the best performance attainable? The application of this fundamental rule to the three classes or types of overhead expense is discussed in the following paragraphs:

**Indirect labor** standards are established, as a rule, in three steps, keeping in mind that a standard is a yardstick for measuring an expenditure of time, effort or money. Step one is to determine the number and class of people who are required to carry out the function in a particular department at a normal, or other selected, operating level. Step two is the determination of the fixed and variable portions of the manpower. Step three is the computation of the money value, multiplying the number of people by the salary or wage rate, establishing the fixed portion as a fixed amount of money and the variable budget standard as a ratio of the computed variable amount to the unit base. Obviously the determination of the number of people in step one should be done by applying the rule of rea-
sonably attainable performance, as stated in the general definition. What number of best quality and adequately skilled men obtainable within the applicable pay range is required to carry out the functions assigned to them, if they are working diligently with proper supervision? The answer to this question may be obtained by various means, ranging from pure judgment or estimate in the case of temporary or rough standards, to an engineered analysis by job descriptions, measurement of the elements of the functions, time studies, statistical studies, or other similar or "exact" means in the case of fully engineered standards. It is, however, necessary to apply, in either case, the same degree of stringency, irrespective of the current degree of efficiency prevalent in this particular group.

The question of using judgment in budget allowances affects both fixed and variable expenses and affects them so that the better the judgment the better the budget. Strict reliance on experience is always the easiest way because we can usually find out what our experience has been. But this is not budgeting - it is merely analysis. With the very real possibility of troublesome times ahead, budgeting requires judgment, good judgment and judgment based on a realistic economy-minded philosophy.1

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Manufacturing expenses (other than fixed items, such as taxes, depreciation, etc.) These standards are, in the majority of cases, adaptable to an engineering analysis supported by historical data, and reflect the optimum performance attainable.

Taxes, depreciation, etc. This class of expenses is usually fixed for the duration of the budget period. Therefore, the budget standards will be identical with the actual amounts, as they represent the optimum attainable performance.

Responsibility for the Development of Budget Standards: The industrial engineer should be responsible for the development and maintenance of all budget standards, including dollar conversion factors where applicable. However, this will require close cooperation with the chief accountant within the operations department, particularly with reference to establishing standards applying to accounts which are largely financial in nature (such as taxes, rent, etc.)

Activity Bases to be Used: The development and use of budget standards should be related to one of the following activity bases:

Production Dept. 10 (Standard machine hours
or
(Standard direct labor hours
Development of Budget Standards: These should be developed for all productive and non-productive departments covering the expense accounts listed in the appendix. In view of the Statement of Policy, specific procedures should be followed in establishing departmental budget standards:

**Determination of normal level of activity.** The primary interest when establishing normal activity is the determination of capacities that, for a period of years, will average out to normal operating conditions, and that will produce the recovery of actual and reasonable expenses. Much care must be exercised in this process, since capacity has its important aspect from a competitive point of view. In general, normal activity, expressed in terms of standard machine or man hours, as the case may be, should be based on a forty-hour operation for each productive department. Such activity should represent attainable standard routing hours, after giving consideration to the effect of bottleneck equipment, idle time and anticipated average efficiency. Normal activity may be computed by either of two generally accepted methods as follows:

The first involves determination of the number of units, which, based on experience or analysis, or both, can be produced under the above conditions with the available facilities, after giving con-
sideration to the effect of bottleneck equipment, idle time and past average efficiency. This figure should be adjusted to reflect any anticipated change in the average efficiency, and then multiplied by the routing standard per piece to produce the total standard hours involved.

The second method involves determination of the number of machines or direct workers employed under the above conditions to arrive at maximum capacity hours. This figure must then be reduced by giving consideration to the effect of bottleneck equipment and idle time, following which it should be further adjusted to reflect anticipated average efficiency.

The figure arrived at under either of the above methods will, in most cases, represent the normal level of activity. It will be necessary, however, to give some consideration on a departmental basis to past and forecast sales experience. If, for example, the figure arrived at through the above calculations indicates a "normal" far in excess of any past experience, or in excess of future forecasts, the "normal" should be re-examined. However, the calculated figure should in no case be increased due to the sales forecast. The normal level of activity, determined in this manner, should be used in the determination of budget standards if the "normal level" of activity is selected for this purpose. It also will be used
for establishing a normal volume from which volume variances may be measured under the budget program.

**Determination of non-productive labor budget standard.**

Manpower budget standards in terms of number of men should be developed for all non-productive labor in all productive and non-productive departments. The following steps should be taken in the development of such standards:

1. The number of employees required for each non-productive labor job classification should be determined, wherever possible, on the basis of operations at the normal level of activity. All figures should be expressed in terms of normal activity and should be so shown on the Manpower Budget Rate Sheet illustrated on the following page (Fig. 6). The job classification used should correspond to the job description. The determination of the number of employees required should be based on a critical analysis of requirements, giving effect to optimum performance, as defined in the Statement of Policy, and after giving consideration to the necessary functions to be performed by the department.

2. The number of fixed employees for each job classification should be determined. In the productive departments, supervisory employees at and above the
<table>
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<th>Dept. No.</th>
<th>Supersedes</th>
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<tbody>
<tr>
<td>Number of Units</td>
<td>Base Standard Productive Hours</td>
<td>Work Week Basis</td>
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**JOB CLASSIFICATION**

<table>
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<th>Variable Per 1000 Std. Hours</th>
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<tbody>
<tr>
<td>Total</td>
<td>Fixed</td>
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**Fig. 6 Manpower Budget**
level of lead men should be considered as "fixed" within a relevant range of operation. In the non-productive departments the fixed personnel should include those required to operate the department based on optimum performance. This ratio should be modified where some other method of determining "fixed" employees would clearly produce a more realistic result. The number of variable employees for each job classification should be determined by subtracting the "fixed" employees from the total employees. The "variable" component of the manpower budget standard in terms of number of men should be derived by dividing the number of variable employees by the budget standard machine hours, or standard direct labor hours, at the normal, or other selected level of operations.

Manpower budget standards that are prepared each month using the above factors should be based on "adjusted standard machine hours" or "adjusted standard direct labor hours". Adjustment of actual standard hours is made to eliminate from the base, variations in hours due to holidays, partial days, and days in excess of the established normal which do not reflect an increase or decrease in
the actual number of men.

To obtain adjusted standard labor or machine hours, take the number of standard labor or machine hours actually generated during the last week of the month. Divide these hours by the number of days worked during this week. Multiply this factor by 21-1/4 working days to get the adjusted hours for the entire month.

The manpower budget standards as determined above should be entered on the Manpower Budget Rate Sheet, and will be used in developing hourly budget standards. They may also be used in the preparation of the monthly manpower control reports which will show the budgeted and actual manpower at the end of the current month based on the budget standard machine hours, or standard direct labor hours, reported for the month. The manpower control reports may also show the budgeted and planned manpower for each of the three succeeding months, based on the forecast level of operations (in terms of budget standard machine hours, or standard direct labor hours) during the period.

In the case of all productive and non-productive departments budget standards, based on budget standard machine hours, or standard direct labor hours, should be developed in terms of man hours, for all hourly non-productive labor. The following steps should be taken in developing such standards:
Using the established manpower budget, the number of employees designated as "fixed" should be converted into man hours based on a forty-hour work week. The resulting amount of man hours, stated on a daily basis, represents the fixed component of the hourly budget standard.

Only non-hours of non-productive employees on the hourly payroll will be converted into hours.

From the established manpower budget, the number of employees designated as "variable" should be converted into hours per day.

Only non-productive hourly employees will be converted into hours.

The variable manpower, in terms of man hours, should be derived by dividing the number of variable man hours per day by the budget standard machine hours or standard direct labor hours per day.

The hourly budget standards will be used in the preparation of the daily and/or periodic budget report for all productive departments and non-productive departments.

In order to permit determination of budgeted expense in dollars for purposes of monthly reporting it will be necessary to establish appropriate "dollar conversion factors" for each hourly budget standard. These should be based on the weighted average base rates.
applicable to the various accounts involved.

After the dollar conversion factors have been established for all non-productive labor included on the hourly payroll, the hourly budget standard should be converted into a dollar budget standard. This should be done by multiplying the hourly budget standard by the corresponding dollar conversion factor for each non-productive labor expense item.

Budget standards should be developed in terms of dollars for all salaried non-productive labor. In developing such standards, the following steps should be taken:

The monthly salary payroll applicable to the "fixed" employees, as developed on the manpower budget (see section on setting manpower budget standards), represents the "fixed" component of the budget standard.

The monthly salary payroll applicable to the "variable" employees should be determined, based on the normal, or other selected, level of operations.

The "variable" component of the budget standard, in terms of dollars, should be derived by dividing the total monthly salary payroll applicable to the variable employees by the budget standard machine hours or standard direct labor hours per
month, based on the normal, or other selected, level of operations. NOTE: The monthly salary payroll may be adjusted to provide for anticipated merit increases, within established rate ranges, during the coming fiscal cost year.

In the usage of all controllable expenses (i.e., expenses other than those comprising non-productive labor) budget standards should be developed in terms of dollars.

The following methods of establishing standards should be as follows:

Budget standards, in terms of fixed and variable components, should be developed as promptly as possible on an engineered basis (i.e., based on analysis supported by such records as time studies, statistical computations of normal performance over a more or less extended period of operations properly controlled and observed, tests conducted and recorded by trained observers, etc.) for all accounts for which such a determination can be made.

Pending development of engineered budget standards, as described above, as well as in the case of accounts for which development of engineered
standards is not feasible, budget standards should be developed on the basis of historical experience, if available.

However, careful consideration should be given to changed conditions or requirements which should be reflected in such standards (for example, changes in design, method, layout, tools, quality, lot sizes, company policy, etc.).

If, in the case of a new product or department, or for some other reason, the historical experience is not available, an estimated standard should be established based on the best experience and judgment available.

No overhead budget standard in terms of man hours should be established for set-up labor. This item of expense should be controlled by performance standards already included in the routing. If machine set-up is significant, the budget standard should be established on the basis of historical data.

Budget standards should be established to cover seven paid holidays per year based on budget standards in terms of dollars.

Overtime premium, in minimum amounts should be budgeted in those departments which by the nature of their work, will normally require personnel on the sixth or seventh working day of the week, or excess hours on a daily basis.
Submission and Approval of Budget Standards:

Prior to the first day of the fourth quarter of each calendar year, or such other date as may be established by the operations director, each department head should prepare a summary of budget standards proposed for use in his department for the next fiscal year. After approval by agreement of the operations director and the department head concerned, the standards should be incorporated into the Budget Standard Rate Sheet (Fig. 7). Interim and annual changes in standards should be prepared on Budget Standard Change Request (Fig. 3).

The operations director, upon final approval of all budget standards for each department, should prepare the Annual Summary of Budget Standards (Fig. 9). He should also prepare a breakeven chart showing a monthly profit plan for the period to which the approved budget standards apply. This finalized breakeven chart should include the standard cost of materials, productive labor, scraps, overhead, and sales, and corporate operations expense, at various levels of activity. This should already indicate the volume variance which will result from overhead expense when activity is above or below normal. The owner-manager should be actively engaged in assisting with all of the details of the budget. His final approval causes the standards to become effective in the following fiscal year.
Budgeting Treatment of Capital Equipment

Installation: Labor spent by the plant maintenance department in the installation of capital equipment pursuant to approved Appropriation Requests (Figure 10.), should be segregated from normal or regular accounts 15, 16, 17. Fixed budget standards should be developed under a project or work order for capital equipment. Standards should be based on an analysis of past expenses, adjusted to reflect any known changes in the capital expenditure program for the year in question, as related to the expenditures during the historical period. Due to possible unforeseen major changes during the year in the capital expenditure program, it will be necessary to watch the performance closely at all times. In the event of a major change in this activity, either upward or downward, the budget standards for those departments affected should be revised accordingly. For budget purposes, no provision is made for segregating incidental expenses, other than labor, involved in capital equipment installation, and charges for these items will appear in the regular accounts.

Establishment of Budget Standards for Sales and Corporate Operations Department

Budget Standards covering all accounts comprising sales and corporate operations departments and manpower budgets should be established for each of these departments.
APPLICATION FOR APPROVAL OF PURCHASE—OR ADDITION TO EXISTING

CAPITAL EQUIPMENT

Approval required on any item of $50.00 or more.

(Submit in Duplicate)

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<th>(Company or Division)</th>
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1. Description of item requested:

2. Estimated cost of item requested:

3. Reason for requested item and explanation of benefits derived therefrom:

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<tr>
<th>DESCRIPTION</th>
<th>Estimated Cost</th>
<th>Accounting Use Only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Actual Cost</td>
</tr>
<tr>
<td>(a) Labor</td>
<td></td>
<td>Over (Under)</td>
</tr>
<tr>
<td>(b) Material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Burden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Direct Purchase From:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Approved by--

Requested by--

REMARKS--

Fig. 10
Responsibility for the Development of Budget Standards: Department heads should be responsible for development of budget standards covering their respective departments in consultation with the Industrial Engineer and Chief Accountant. These departments tend to be fixed within rather wide swings in volume but are more closely adaptable to permanent shifts. Therefore, pending the development of procedures for the establishment of budget standards on a "step" basis for use at varying levels of activity, budget standards should be established on a "fixed" basis. In arriving at such amounts consideration should be given to the department's previous experience, its present payroll and the possibilities of reduced expenses in line with improved efficiency or other factors. Budget standards should cover the organization and activities of the department as of their proposed effective date and should not attempt to provide for anticipated changes in organization or function as such changes should be handled by subsequent management.

No allowance should be budgeted for vacation expense, the actual monthly expense provision for vacations will be used as the budget allowance. To avoid duplication in the amount of budgeted salary expense, only 50% of the monthly salary expense budget will be allowed in the month of the vacation period.
When historical data for these departments has been developed, certain variable basis may be established such as; sales, M units shipped, or M invoices, trucking stated in truck miles. In the accounting function this may be bills handled, checks received, invoices posted, and letters typed.

Expenses which are incurred on an annual or irregular basis (advertising, professional fees, charity and donations, subscriptions and dues, etc. should be handled on an actual basis as follows:

The budgeted amount of the expense classifications for the full calendar year should be determined. Where substantial expenditures are anticipated, a break down by specific items should be made. A lump sum amount may be provided to cover minor items or those which cannot be specifically estimated at the time of preparing the annual budget.

This amount should be divided by 12 to produce a monthly average figure. This will be used in the departmental budget rate sheet and will also be the monthly expense accrual.

This will result in the monthly budgetary performance reports showing actual and budgeted expense as identical unless either the expense accrual or budget is changed without a corresponding in the other, in which case a
variance will result.
Where the annual amount for any expense classification has been broken down by specific items, a supplemental report should be issued showing the relationship of the cumulative actual expenditures incurred for each specific item to its annual budget.
Any excess of an item over its annual budget will be shown as variance. It is to be noted that although a variance may be shown for a specific item on the supplemental report, a variance will not necessarily be shown on the main departmental report. The total monthly expense accrual will not be changed if some downward revision can be foreseen in the remaining budgeted items to absorb the over-expense.
Any expenses which are to receive this treatment should be designated in the Budget Standard Rate Sheet as "Accrual Basis" items.

Submission and Approval of Budget Standards:
Prior to December first of each year, each department head should prepare a list of budget standards proposed for use in his department during the following calendar year.
This should be Budget Standard Rate Sheet (Fig. 7) submitted on, and supported by, a summary of employees in the department and their respective functions. It should show by name supervisors and group heads, and classify
clerks and other employees under the various functions involved. The total number of employees shown should agree with the number stated in the proposed budget. The Budget Standards Rate Sheet should also be supported by appropriate explanations with respect to any other major expense items.

After approval by agreement by the operations director and the department head concerned, the standards should be incorporated into the Annual Summary of Budget Standards proposed by the operations director. These standards should become effective January 1 for use until changed.

Changes in departmental activities, methods, volume of work, or merit salary increases may require changes in budget standard within a calendar year. Requests for such changes should be prepared by the department head in the form of a Request for Change in Budget Standards (Fig. 8) and numbered in sequence within each year in order to facilitate identification and reference. In the case of increases or decreases on payroll, no action should be taken unless the proposed change falls within a previously approved budget or a Request for Change in Budget Standards to cover the proposed action is proposed, submitted and approved as provided above. No approval should be granted unless the change is fully explained on the Request for Change in Budget Standards (Fig. 7).
Conclusion: Modern budget techniques provide for objectively established standards for all direct and indirect departmental operations. These standards can be based upon time and motion studies where appropriate or they can be established by work measurement as long as such means are not merely guesses. Budgets or yardsticks predicated primarily on past performance do not provide a satisfactory means of controlling non-manufacturing cost. They tend to indicate what the costs have been.

The building of the small business budget is not costly to install or operate. It does require continuous study and improvement, can be a guiding influence to rapid growth, and is easily adapted to the computer. The four additional forms (Figs. 6 to 9) can be integrated into the accounting function and point accounting toward marginal emphasis. With tables of established budget standards it should be possible to determine the amount of budgeted manufacturing sales, and corporate operations expense at any level of operations for the purposes of preparation of operating forecasts and measuring actual performance vs. budget.

Preparation of Forecasts

Two types of forecasts should be prepared quarterly (1) a twelve month forecast covering sales, operations and inventories and (2) a three year forecast covering sales
only by product or customer. These forecasts should be
designated:

Forecast No. 1 December 1
Forecast No. 2 March 1
Forecast No. 3 June 1
Forecast No. 4 September 1

Prior to the preparation of each quarterly fore-
cast the operations director should issue any special
instructions applicable to each forecast. These should
include any basic assumptions upon which the forecast
should be based obtained from the sales department, sales
service section, purchasing section and payroll sections
of the various departments. Where appropriate, current
local economic trends, industry surveys, and the national
and international situations should be reviewed. Specific
trends for review are (1) sales price trends (2) material
availability and price trend, and (3) wage rate trends.

The specific periods to be covered by the twelve
month forecast are shown in (Fig. 11), and the form (or
stub) to be followed in the preparation of this forecast
is shown in (Fig. 12).

The sales forecast should be prepared in detail
by the sales department or use for approval by the
operations director. This becomes the basis for the
<table>
<thead>
<tr>
<th>Year to Date</th>
<th>Fourth Quarter</th>
<th>Calendar Year</th>
<th>First Quarter</th>
<th>Second Quarter</th>
<th>Third Quarter</th>
<th>Fourth Quarter</th>
<th>Year</th>
<th>Forecast No.</th>
<th>Release Date of Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>November December</td>
<td>January</td>
<td>February</td>
<td>March</td>
<td>April</td>
<td>May</td>
<td>June</td>
<td>First Quarter</td>
<td>March 1</td>
<td>December 1</td>
</tr>
<tr>
<td>April</td>
<td>May</td>
<td>June</td>
<td>July</td>
<td>August</td>
<td>September</td>
<td>First Quarter</td>
<td>Year</td>
<td>Second Quarter</td>
<td>March 1</td>
</tr>
<tr>
<td>July</td>
<td>August</td>
<td>September</td>
<td>October</td>
<td>November</td>
<td>December</td>
<td>Fourth Calendar Year</td>
<td>First Quarter</td>
<td>June 1</td>
<td></td>
</tr>
</tbody>
</table>

*Not applicable to Inventory Forecast.

#Inventory balances to be shown are those at the close of the periods indicated.

FIG. 11
# TWELVE MONTH OPERATING AND INVENTORY FORECAST

**XYZ COMPANY**

**Operating Profit**

**Sales (Net of Returns)**

<table>
<thead>
<tr>
<th>Product</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td></td>
</tr>
<tr>
<td><strong>Total Sales</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Operating Profit**

- **Margin (%)**
- **Sales Expense**
- **Corporate Operations**
- **Total**

**Profit Before Taxes**

**Inventories**

**Beginning Inventory (Gross)**

- **Add:** Raw Materials
- **Work in Process**
- **Finished Goods**
- **Total Standard**
- **Less:** Cost of Sales*

**Ending Inventory**

*Variance should be detailed.

---

**Fig. 12 Operating & Inventory Forecast**
preparation of the operating forecast. Unit sales data should be presented by the production superintendent or production control manager. Responsibility for conversion of this unit data to dollar amounts should be assigned to chief accountants. The following procedure should be followed in the preparation of the sales forecasts:

Although only total sales by product classification should be shown in the operating forecast, it is advisable to develop products within product classifications where applicable. Forecast sales should not only reflect orders on the books but also those expected to be received for shipment during the period covered. In forecasting sales, the production superintendent or production control manager should be responsible for information as to anticipated shipments related to orders actually on the books. The sales department head using the forecast assumptions as a guide should be responsible for customer business not yet reflected on the books. Selling prices should reflect the best estimate as to probable prices to be in effect during the period covered. The effect of any unusual conditions should be considered, and if reflected in the forecast it should be indicated by a footnote. Indescribably the soundness of the operating forecasts rests in large part on the validity of the sales forecast, it is important that the sales forecast
to the expected inventory sentence, necessary, whatever should be given
experiences, anticipated deliveries and estimated usage.
In forecasting experience, the concept of inventory to past
cases. Balances should be estimated on the best
balances should be forecast for all inventory classes.
Hence, the impression of the inventory forecasts.

The other accountants should be responsible for

forecasting expenses.

Estimates should be included for sales and costs.
Estimated expenses should be considered. Applicable
best experience as well as estimated operating
levels of desired production. In determining variances,
should be determined on the basis of the production
period in the forecast, in which case variances
related between sales and production levels for any
activity, unless a substantial difference is evident.
Standard cost should be based on forecast sales
of standard costs currently in use. Variances from
the standard cost of sales or production within
each variance should be taken from the sales price.

If accountants, the company's objectives should be
reflected the best consolidated opinion of all concerned

73
and budget in the manufacturing department. Production volume as related to shipping volume must be considered in any particular month when determining inventory balances.

Preparation of the three year forecast by the chief accountant will require less detail, but the same general principles as set forth above should be followed. Sales shown for the first year of the three year forecast period should be consistent with those shown in the twelve month forecast. Obviously, all forecasts must be approved by the owner-manager or board of directors and should be accompanied by a brief memorandum by the operations director commenting upon significant features, including a brief explanation of any major changes from the previous forecast. Further extensions of the approved operations forecast into a cash forecast, balance sheet forecast, return on investment analysis, etc. must and should be made to complete the planning function of the total concept of the management information system.

Conclusion

Throughout the preparation of these forecasts, it can be seen that the established budget standard
becomes a vital tool in quickly facilitating data for decision making. Sudden changes in volume factors, internally and externally, can be analyzed as to their impact on profitability. Then action can be initiated if warranted, to make corrections.
CHAPTER IV

COORDINATION AND FOLLOW-UP TECHNIQUES

A budget is only of value if the variances of actual results from the budget or yardstick are followed up for analysis and corrective action. Corrective action can be taken by either, (1) making changes in operations so that original plans may be achieved, or (2) modifying the budget to reflect revisions in plans. The primary justification of any budget program is to provide data and information of a control nature which is not otherwise available. Such data must be used, and used intelligently, or the budget program serves no useful purpose.

Not only figures should be controlled, but also individuals and performance should be controlled by follow-up techniques. This is the most difficult part of the budget program-coordinating the activities through people to bring about the execution of plans and objectives. People do not like to be controlled. "Control" should be replaced by the word "cooperate".

Once plans and budgets have been approved by all levels of management, three principal means of follow-up
In the case of performance, the

encrypted, the communication
key to encrypt the case readable

case of other occasions, where only weekly changes are

performance levels which is not equal to performance. In the

case of the communication key, the changes also impact the
to day. For this reason the general activity level is

should be closely scrutinized. In some instances, due to

repeated daily check is in order and each day's results

In the case of the daily budget reports, a

difference which are significant.

questions for management to watch to do about any of these

which any difference between these two highlighted. The

present a comparison of actual costs to budgeted costs

what guidance or case is evitable. All budget reports

The in these necessary, primarily, to consider

Reports

Concepts, Changes, and Other Ideas

manageable and key personnel.

changes at all levels of management between

performance changes plans and expectations.

Researchers to all responsible executives on

are used.
Exhibit

Economic performance is not perfectly predictable. Therefore, a better way to plan the period covered in the economic forecast is to recognize when economic forecasts are occurring in the economic business. However, economic forecasts are nevertheless to non-

We can do the month. When the expected economic forecast to

business should order the 12 month calendar of
to plan all forecasts into balance the whole

month

week of the month, but are not paid until the subsequent
the case of payables where wages are not paid in the last
represents in all instances. Which is predictable in a

At the end of the month, the month

were bold. It is obvious that the sum of the week
They should be due at least each month to each department.
needs of production dependences by the other economic
lead to least each week to supply forecasts and departments.

represents on economic performance should be

of economic performance where changes are made only periodically.

counterparts give the impression, "permanently" in the case
The essential characteristics of effective reports for managerial use are as follows:

1. Be consistent with the organizational structure.
2. Utilize the principle of exception where possible.
3. Be simple and understandable.
4. Contain only essential information.
5. Be adapted to the personality of the user.
6. Be designed with consideration of the use to which they will be put.
7. Be accurate.
8. Be prepared and presented promptly.
9. Convey a tone of helpfulness rather than criticism when possible.
10. Be standardized where feasible.
11. Include a basis for evaluation of the data.¹

Reports on operating performance are issued each week and month to supervisors and department heads by the operations department. Summaries are prepared for those in charge of several sections or departments. A typical weekly report is shown in Fig. 13 on the following page.

Manpower budgets are extremely useful tools of management to determine, at a glance, the number of employees on the payroll in comparison with the budget. These budgets are a by-product of the determination of indirect labor factors for hourly and dollar budgets.

They are useful to production, personnel, and factory employment, as well as management, when forecasting several months in advance.

### Weekly Variable Budget Performance

**Department:** __________________________  **Department Head:** __________________________

**Week Ended:** __________________________

<table>
<thead>
<tr>
<th>Budget</th>
<th>At Actual</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Projected</td>
<td>Activity</td>
</tr>
<tr>
<td>Machine Utilization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lots Produced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production Run Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>At Standard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inefficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scrap and Rework</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payroll</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Variable (at __%)
| Fixed |
| Total |
| Controllable Expense |
| Variable (at __%)
| Fixed |
| Total |
| Total |

**Explanation of Variances**

---

**Fig. 13 Weekly Performance Report**
Advances in productivity etc.

In the context of increased productivity and efficiency, there has been a shift in the concept of supervision. Such as, the traditional, hierarchical, and centralized approach to supervision has been challenged by a more collaborative and accountable model. The relationship between the supervisor and the supervised should be given by the direction and the underlying principles of supervision, which encompass evaluation and accountability.

To determine which section to be taken, consideration should be given to the current report. If the report is the highest priority, it may be necessary to consider the current section, which is the second section of the report. The current report should be considered in conjunction with the breakdown of accountability and responsibility, including the relevant sections.

For any change to be effective, and to facilitate a decision, the current section should be shown in the current section plan so that management is aware of the changes. The estimation of current performance should be shown in the current section, and for a reasonable period of three months, the current section on the production of the current report should be renumbered for the next month, and the number should be updated accordingly once a month, as the current section is the highest priority, which should be noted to highlight, can be

By management, when regarded as necessary.
... boxes and creates, participation tools with un-

vendace. This is underwary. Olls and.Interopce,
to essentially analyze the source of unrecoverable
a建立健全 breaks on either account is required

Supplies - No. 96.

Secor was reduced from 0.90 to 0.16
ployees to this operation. As a result, budget
this is due to the censor of core shielded -
which improvement has been made in this account.

Investigations - Cost of Production - No. 16

of proper budget use are:

... some examples of information uncovered as a result
cover or under) of structural changes in responses for imvestiga-
coast of "budgeted" costs, both recoverable and unrecoverable.
The differences or variances between "equation

The next step is

net revenue should be prepared cautiously, see Fd. I he on

In indirect manner, conduct regular review for manage-

errors in reporting or information in budgeting.
As to enhance understanding that may occur due to

account with supervision is very important, so

manpower report,

manpower budget, and that these should be accessed to the

corrective action section to be taken on all differences in the

a corrective. These should be completed and all
<table>
<thead>
<tr>
<th>Dept. No.</th>
<th>Name of Department</th>
<th>Budget</th>
<th>Actual</th>
<th>Over or Under</th>
<th>No. of Budget</th>
<th>No. of Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Month Ending: CURRENT MONTH

Date: FORECAST

Fig. 14 Manpower Report
The actual expenditure or operational expenditure on the preceding report is not all in line with the current situation. A comparison report to account for this is shown in the following pages.

Consistent. It is particularly important at the start to ensure that the report for budgeting and accounting is as close to the kind of investigation as is possible to match what has been experienced and to estimate accurately.

A price of $500 per $500 could result from this expenditure. However, new business of $500,000 from the State Department resulting in $5,000 un-

A conference or unexpected action was held by superintendent.

The service as a revenue basis for a new budget and analysis, which form the survey is being completed and

Inaccurate classification by accounting. A house- Poor performance has been experienced due to
collusion/defective new accounts.
# Departmental Overhead Comparisons

<table>
<thead>
<tr>
<th>Month of Variance</th>
<th>Actual</th>
<th>PERSONNEL COUNT</th>
<th>Months thru Actual</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct - Hourly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indirect - Salaried</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CONTROLLABLE EXPENSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Shipping &amp; Receiving</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Production Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Packaging</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Transportation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Maintenance - Bldgs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>&quot; Capital Equip.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>&quot; Tooling</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Tool Crib</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Dir. Labor to Indirect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Holiday &amp; Vacation Pay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Sick Pay</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>24</td>
<td>Premium Pay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Salaries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34-37</td>
<td>Fringe Benefits</td>
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</tr>
<tr>
<td>35</td>
<td>Commissions</td>
<td></td>
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<tr>
<td>36</td>
<td>Supplies</td>
<td></td>
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<tr>
<td>40</td>
<td>Maintenance &amp; Repairs</td>
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</tr>
<tr>
<td>42</td>
<td>Perishable Tools</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Truck Expense</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>46</td>
<td>Freight In</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Utilities</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>50</td>
<td>Telephone &amp; Telegraph</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Auto Expense</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>53</td>
<td>Travel</td>
<td></td>
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<tr>
<td>54</td>
<td>Entertainment</td>
<td></td>
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</tr>
<tr>
<td>55</td>
<td>Business Meetings</td>
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<td></td>
</tr>
<tr>
<td>56</td>
<td>Dues &amp; Subscriptions</td>
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<td></td>
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</tr>
<tr>
<td>57</td>
<td>Contributions</td>
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<tr>
<td>58</td>
<td>Professional Fees</td>
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<tr>
<td>59</td>
<td>Collection Expense</td>
<td></td>
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</tr>
<tr>
<td>62</td>
<td>Advertising</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>64</td>
<td>Samples</td>
<td></td>
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</tr>
<tr>
<td>65</td>
<td>Sales Errors</td>
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<td></td>
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</tr>
<tr>
<td>Sub Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL CONTROLLABLE EXPENSE</td>
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<tr>
<td>NON-CONTROLLABLE EXPENSE</td>
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</tr>
<tr>
<td>70</td>
<td>Rent - Bldgs.</td>
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</tr>
<tr>
<td>71</td>
<td>Equipment Rental</td>
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</tr>
<tr>
<td>72</td>
<td>Depreciation</td>
<td></td>
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</tr>
<tr>
<td>74</td>
<td>Insurance</td>
<td></td>
<td></td>
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<tr>
<td>76</td>
<td>Taxes &amp; Licenses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>Royalty Expense</td>
<td></td>
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<tr>
<td>79</td>
<td>Franchise Tax</td>
<td></td>
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<tr>
<td>80</td>
<td>Tooling Amortization</td>
<td></td>
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<tr>
<td>90</td>
<td>Departmental Transfers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>94</td>
<td>Scrap Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>Cash Discount Earned</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>TOTAL NON-CONTROLLABLE</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>TOTAL OVERHEAD</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>DIRECT LABOR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRAND TOTAL EXPENSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OVERHEAD RATE %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DEPARTMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
the effect on the budget performance.

department, before moving on to capping the budgetary levels on the operation.

by providing the necessary cost control. For example, a well-functioning budget planning can be the reason

responsible, a concerned office can be made to account for.

can be handled by the Finance, and once budget standards and proper control measures can be taken. As a result, plans

It is only by understanding into the details that

the budget level or operation.

the volatilization of price and fluctuations are comparable to

the volatility variance to be ceased by an under or over

need addressed to the actual level of operation.

between the actual overhead and the budgeted over.

the labor wage variance to be ceased by the difference

the goodwill standards.

By one or less new method that produced key

the record of these variances result from the

numbers. The record of these variances results from the

acquisitions purchased and the actual cost of these

difference between the actual cost of the

the managers who will be responsible variances that
The question becomes one of whether the new hire is needed badly enough to warrant exceeding the budget. It may be that utilization of "combining" personnel would solve the problems. If this be the case for a future period, perhaps the budget is too liberal and should be adjusted.

Naturally, top management is most interested in progress made in both cost and other areas of performance. But it cannot review the detailed reports provided each supervisor or department head. Therefore, the operations director should issue a general summary of operating results to the manager. Accompanying this, an analysis of those results, should be made pointing out significant problem areas and progress made during the month.

A brief listing and description of these top-level reports follow.
Meetings

Generally speaking, the proper use of budgets reduces itself to the type and frequency of meetings that are held, the personnel who attend these meetings, and what is discussed.

Monthly: At least once each month the manager should hold a general budget meeting which is attended by the department heads, industrial engineer, and chief accountant.

At such a meeting, the monthly and daily budgets for the various departments should be discussed, upward and downward trends in performance should be noted, and comments should be made as to what can be done to improve performance on labor and overhead items. This type of meeting should be principally for the purpose of promoting enthusiasm for the budget. It should help to convince the foreman that the top management is behind the budget and aware of any improvement or retrogression in performance. Departmental charts showing operating performance are useful for this purpose. It should be pointed out, however, that a general meeting of this type should be confined as much as possible to general remarks so that no offense will be taken by any member of the supervision who is singled out for criticism.
By the introduction of a different grade or type of

character of a systematic method of doing the work, the letter can obtain be accomplished by the infor-

mation to meet the budget, the operation of the

impossible to meet the budget, the operation of the

in the instance where the common claims it is

et on an accounted basis.

or whether the team is striving one another how to be looked

or too loose, whether fundamental conditions have changed,

decision should be made as to whether the budget standards

are met and the meeting the budget. In the letter case a

way the team that are over the budget, but these those

be discussed at the meeting. The group should examine not

then the daily and monthly budget reports should

the problem.

can answer questions pertaining about the ultimate solution of

notice all everyone who will attend an opportunity to

changes should be brought to the meeting. This advance

changed in the budget, the attendance of everyone who

what a study can be made of the indoctrination the meeting

volunted, the race should be brought to the meeting to

learn to be discussed. Those lower assessments are not

should be presented in advance for the meeting, but the operating department prior to the meeting, the operational department.
material, by increasing, shifting, consolidating or re-aligning responsibilities among personnel, etc.

The regular monthly meeting, such as described above, can well become the key to the success of the budget program.

Daily: The second type of meeting which appears to be essential to the successful use of budgets is conducted in a more informal way by means of daily contact between the budget staff clerk and the foreman of the department. (In cases where performance is satisfactory, such personal contacts need not be on a daily basis but should be made as frequently as necessary to maintain a close relationship, and to ensure that the foreman realizes that budget performance is being closely scrutinized at all times.)

One of the principal points in favor of the daily budget report is that it enables the supervisor or foreman to correct, on the following day, any condition which has led him to run over the budget on the previous day.

The budget staff clerk should carefully go over the daily report of each department and note any items which have suddenly exceeded the budget. He should find out the reason for the overage and then contact the
It is very important that this type of frequent contact be established and maintained. In the event the department is exceed the budget, the Budget Staff Clerk should make a point of seeing the Foreman of that department, and passing the comment that he is doing a good job, or some similar remark, that will let the Foreman know that his budget performance is being watched.

**Emergency:** A third procedure which has a place in promoting the use of budgets to the fullest extent is the highly concentrated, emergency type of meeting.

This type of meeting should be held only in the event that there are emergency conditions which must be immediately investigated and corrected. Such meetings should be conducted by top management as a means of getting prompt and direct action. The meetings should be held daily until the conditions are corrected.

It is desirable that the emergency meeting include, in addition to the manager, operations director, and industrial engineer, the foremen of those departments which are showing poor performance. The usual procedure is to discuss all of the items on the daily departmental budget report which are out of line, to assign these items for investigation, and to report on the following day as to what steps were taken to correct them. This type of daily contact differs from the ordinary informal contact between.

---

the budget staff clerk and the foreman, in that policy
questions can be discussed and changed if present practices
and procedures are the cause of poor performance.

In as much as the emergency type of meeting
ties up the top management and certain key personnel for
an hour or two every day, such meetings should be dis-
continued at the earliest possible moment.

The type of investigation and follow-up will
naturally vary somewhat, depending on the nature of the
problem, or the organizational set-up, and a great deal on
the size of the company.

Charts

Charts are useful at meetings and other times to
dramatize operating results. Generally these charts cover
the same material as shown in the regular reports. Other
charts are sometimes prepared on particular phases of an
individual department's activity.

Purpose of Control Charts: To be effective
for management control purposes, charts should treat only
key business factors in meaningful relationships. They
should be simple, clearly understood, forcefully de-
monstrative, and reasonably easy to maintain.

Charts should provide top management the
following benefits:
The second important point is that each character should be

encoded in five parts: (1) (a) (b) (c) (d) (e) (f) (g) (h) (i) (j) (k) (l) (m) (n) (o) (p) (q) (r) (s) (t) (u) (v) (w) (x) (y) (z) (A) (B) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O) (P) (Q) (R) (S) (T) (U) (V) (W) (X) (Y) (Z)

He should eliminate the redundant connotation, the excessive connotation, the excessive repetition, the excessive usage, and the excessive space. He should also eliminate the excessive repetition, the excessive usage, and the excessive space. He should also eliminate the excessive repetition, the excessive usage, and the excessive space. He should also eliminate the excessive repetition, the excessive usage, and the excessive space. He should also eliminate the excessive repetition, the excessive usage, and the excessive space.

Therefore, the decision is reached, for the second

reduced influence is achieved. Moreover

plunder performances, good or bad, the sympathy

and interest in proposed pictures and characters.

Nevertheless a check on control features and

hazards relayed of these sound changes gives
evidences needed and because we have

understandable changes of key qualities besides the
succeed performance—extraretic processes

Prodomicata can time development

succeed performance—neural hemodynamics expression

quadratic performance

succeed performance

Innovations methods

As applicable, summarily, the use of the concept of the edges should be introduced with an
as the necessary investigations, the other major areas

One problem, unnecessary, new features and feedback
craves on path, pathology, accident, disaster, such as product

the clinical physician/facilitate Dy of veterinary Aty. By the concept of the

The concern merely should open each opportunity to

as the capability to be developed.

as the important results of trends, as the concept report

of the observations, extrasensory evaluation to be focused on,

the General concept, they serve to define an overall pattern

among's performance and commonly the converse the direction

the observations diagram should anticipate the possible

In preparation for the

demonstrable changes should be expected elsewhere in

demonstrated

one or more of the possible conditions and possible causes of
In discussing performance in each area, the underlying causes of the results should be clearly identified and appraised. The significant portion of each chart detail indicates a number of points to be considered for appraisal and can be used as a guide for the discussion.

Examples of the above mentioned charts are given in Figs. 16 and 17.
XYZ COMPANY - -

BUDGET PERFORMANCE

DIRECT DEPARTMENT OVERHEAD

THOUSAND DOLLARS

175

Total Overhead

150

Indirect Labor

125

Expense

100

Fig. 16
Fig. 17
No budget program should be without the use of break-even charts. If the volume of sales for a period can be predetermined, it is a simple matter to project a profit & loss statement for the period. A break-even chart is a graph based upon the assumption that a consistent relationship exists between volume of output and net profit. Based on this assumption the chart reveals at a glance the profitability of operations at every possible scale of operations from zero to 100% of plant capacity. Break-even charts can be constructed for products, product lines also. The fixed and variable component of plant or (product) expense must be segregated.

Fig. 18. -- Profit & Loss Projection (Breakeven Analysis)
Once a projected profit & loss has been determined a projected balance sheet can be determined. An owner manager might find it convenient to have the expected monthly balances of the various current assets and accounts payable placed in a single graph. Profit charts on the following pages are of particular significance.

**CURRENT ASSETS**

![Graph of Current Assets]

**Figure 28. Summary of expectations as to balances of current asset accounts and of trade accounts payable.**

- Raw materials
- Work-in-process
- Finished goods
- Accounts receivable
- Cash
- Accounts payable

**Fig. 19.—Current Assets**

Fig. 20 Cumulative Budget Comparison
### Comparative Monthly Statements of Net Income (000's Omitted)

<table>
<thead>
<tr>
<th></th>
<th>1965</th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUNE</th>
<th>JULY</th>
<th>AUG</th>
<th>SEPT</th>
<th>OCT</th>
<th>NOV</th>
<th>DEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Sales</td>
<td></td>
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<tr>
<td>Cost of Sales</td>
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<tr>
<td>% to Net Sales</td>
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<tr>
<td>General Research and Development</td>
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<td>% to Net Sales</td>
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<tr>
<td>Operating and Other Expenses</td>
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<tr>
<td>% to Net Sales</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Net Income Before Taxes</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>% to Net Sales</td>
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<td></td>
</tr>
</tbody>
</table>

### Comparative Monthly Trend Chart of Sales

![Chart of Sales]

### Comparative Monthly Trend Chart of Profits Before Taxes

![Chart of Profits]

**Fig. 21** Comparative Monthly Trends
Conclusions

Reporting the budget plan against actual results is necessary to the effectiveness of the control process. Since timely corrective action is fundamental to effective control, the frequency and timeliness of control reports, consistent with the cost of preparing them, cannot be overemphasized.

Corrective action begins with a written explanation of significant deviations in many companies, and an oral explanation in the rest. During meetings to discuss variations and problem areas, supervisors and managers should use the opportunity to further train subordinates in the operation of the budget program and to gain insight into operating problems.

Many times these meetings extend into a re-evaluation of future performance and a determination of probable outcome based on new developments originally unforeseen.

A checklist for follow-up on performance might include these considerations:

1. Review corrective action with the department head respecting those daily incidents that are likely to result in budget variations.
2. Regularly analyze transfers of direct to indirect labor and expense and vice versa.

3. Reflect savings resulting from capital expenditures in the operating expense budget.

4. Compare results with benefits anticipated before expenditure to see if technical or engineering faults may be remedied at little extra cost and thus fully realize the intended objectives.

5. Praise good performance.

6. Don't fail to stimulate the development of newer and better ways and means of obtaining results from department executives.

7. Don't forget that good budget performance does not occur as a matter of course but is brought about by constant surveillance.

8. Don't fail to forecast the effect of management's current decisions on future results. 4

It is concluded that the simple follow-up program as outlined in this chapter is inexpensive, can be an implementation to many accounting reports required by tax laws, and can lead to timely information for managerial decision making by the small business manager. This gives credence to the validity of the hypothesis of this thesis.

CHAPTER V

APPLICATION OF BUDGETING TECHNIQUES

In the previous chapters, the usefulness of budgeting techniques was indicated. It was concluded that variable budgeting produces the more accurate and scientific results. The basis of this control instrument depended upon a careful segregation of fixed and variable costs. Of greater importance was the determination of "normal" plant capacity, which for years would produce the recovery of actual and reasonable expense. Once this norm was determined by engineered studies and other scientific methods, it became the basis for the development of budget standards throughout the organization. As long as existing plant and facilities remained essentially the same, "normal" plant capacity, standards, budgets, etc., did not change. Comparisons from year to year could be made with ease and effective decisions made quickly.

Having segregated costs into their fixed and variable components, it is quite simple to integrate and incorporate these techniques into the accounts and establish direct costing.
Direct costing produces valuable data for short-term decision making. Direct costing avoids the use of overhead costs which tend to create impressions of accuracy that generally are not warranted. Cost allocations and overhead rates are not precise enough for decisions. Overhead cannot be assumed to apply uniformly to all products. The establishment of overhead rates requires a predetermination of the expected level of operations. Direct costing is useful in short-run pricing decisions. Product prices may show profit increases under direct costing, provided the revenue exceeds the variable costs and better opportunities for utilization of facilities do not exist. Direct cost data are useful in capital investment and make-buy decisions. Period costs (fixed) generally are not relevant in analysis for decisions, if idle capacity and other resources exist that cannot otherwise be used since such costs are not relevant in make-buy decisions. Some other short-run decisions which depend on direct cost data are selected from alternative uses of production facilities: selling versus additional processing of manufactured items; optimizing the production mix; determining inventory levels; selective selling; delivery route decisions; and determining the size of the sales force.
The small business manager is concerned primarily with short-run decisions for survival and growth. His use of the direct costing method would appear automatic.

Application of budgeting techniques as outlined in this thesis are demonstrated in the model that follows.

The Model

The XYZ Company is a small manufacturing concern that is engaged in the production and selling of various kinds of metal containers. Their sales volume has ranged from an annual amount of $3,500,000 to $4,500,000 during the years of 1964 through 1966. Common Stock outstanding is $1,500,000. The Company has been in business for over 5 years.

Mr. X, the President and treasurer has adopted the policy of titles for everyone and has carried this policy to extremes. Mr. Y is the Operations Director (Vice President), Mr. Z is the Industrial Engineer (Time and Motion Study Specialist and a Vice President), and Mr. A is the Chief Accountant. All of these personnel are in the Operations Department (See Fig. 1), occasionally called Corporate Operations or Corporate and Operations Department by the employees and supervisors.
Since 1960 a standard production cost system has been in operation. Standards were provided for:

1. Raw material quantities for products.
2. Raw material prices.
3. Direct Labor operations time.
4. Direct Labor wage rates.

Actual burden has been applied to productive departments and products each month. This practice was started when the Company was smaller and has never been changed. Mr. X on several occasions has threatened to fire everyone connected with accounting and the industrial engineering function because he cannot seem to fix responsibility for what he considers to be poor results. On several occasions Mr. A, the Chief Accountant, has suggested that a budget program be included or added to the existing accounting function. Mr. X has complained that this was too costly for the Company, but Mr. A presents him with the program as outlined in this thesis showing authoritative data that budgeting techniques should be used by the small business manufacturing concern. Mr. X decided to present the matter to the Board of Directors composed of X, Y, and Z. The Board approves the program.

Mr. A, reviews his departmental organization
(Fig. 3) and the present accounting reports. He finds that with a few changes he can readily adapt his accounting system.

Mr. Y, calls a meeting with Z and A and the program is launched. Budget standards are established, direct costing accepted and the management information system is complete.

Mr. A, prepares schedules of examples using the established budget standards, assumes a level of activity for a two month period and prepares manufacturing expense statements. He diagrams the flow of costs in the XYZ Company and prepares a product Profit and Loss Statement. He plans to present his information, shown on the following pages, at the next meeting of the Operations Committee.
## DEPARTMENT 10 BUDGET STANDARDS
### PRODUCTION

<table>
<thead>
<tr>
<th>Expense Classification</th>
<th>(Fixed Per Month)</th>
<th>Variables*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indirect Labor:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packaging</td>
<td>13</td>
<td>$2000</td>
</tr>
<tr>
<td>Transportation</td>
<td>14</td>
<td>1500</td>
</tr>
<tr>
<td>Salaries</td>
<td>31</td>
<td>2500</td>
</tr>
<tr>
<td><strong>Indirect Expense:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supplies</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>40</td>
<td>4000</td>
</tr>
<tr>
<td>Depreciation</td>
<td>72</td>
<td>3000</td>
</tr>
<tr>
<td>Taxes</td>
<td>76</td>
<td>1000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>$14000</td>
</tr>
</tbody>
</table>

*Per Standard Direct Labor Hour Department 10
If, likewise, budget standards have been established for all non-productive departments, the summary would appear somewhat as follows:

**XYZ COMPANY - DEPARTMENTAL BUDGET STANDARDS**

<table>
<thead>
<tr>
<th>Name</th>
<th>Dept. No.</th>
<th>(Fixed Per Month)</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Production:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspection</td>
<td>14</td>
<td>10,000</td>
<td>.05</td>
</tr>
<tr>
<td>Production Control</td>
<td>16</td>
<td>7,500</td>
<td>.06</td>
</tr>
<tr>
<td>Plant Maintenance</td>
<td>19</td>
<td>3,500</td>
<td>.03</td>
</tr>
<tr>
<td><strong>Total Manufacturing</strong></td>
<td></td>
<td>$40,000</td>
<td>$2.89</td>
</tr>
<tr>
<td>Sales</td>
<td>70</td>
<td>4,000</td>
<td>.05</td>
</tr>
<tr>
<td>Corporate Operations</td>
<td>80</td>
<td>6,000</td>
<td>-0-</td>
</tr>
</tbody>
</table>

$50,000
Further assume that the level of activity is represented by $500,000 this period and that the resulting direct labor rate is $1.00 per hour and the number of (time study) standard productive labor hours is 125,000.

Using the budget standards established on the previous page, the budget statement of manufacturing expense would appear as follows:

**BUDGETED MANUFACTURING EXPENSE FOR SALES OF $500,000**

<table>
<thead>
<tr>
<th></th>
<th>Standard Hour Base</th>
<th>Budget Standards Fixed</th>
<th>Budget Standards Variable</th>
<th>Budgeted Mfg. Exp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production:</td>
<td>10</td>
<td>125,000</td>
<td>$14,000</td>
<td>$2.75</td>
</tr>
<tr>
<td>Non Productive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspection</td>
<td>14</td>
<td>125,000</td>
<td>10,000</td>
<td>.05</td>
</tr>
<tr>
<td>Production Control</td>
<td>16</td>
<td>125,000</td>
<td>7,500</td>
<td>.06</td>
</tr>
<tr>
<td>Plant Maintenance</td>
<td>19</td>
<td>125,000</td>
<td>8,500</td>
<td>.03</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>$40,000</td>
<td></td>
</tr>
</tbody>
</table>

Based on the above amounts, Figure 22 shows the relationship between budgeted and actual manufacturing expense under differing circumstances. Point A, B, C and D show actual manufacturing expense. The related figures are as follows:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Std. Prod. Labor Hours</td>
<td>125,000</td>
<td>65,000</td>
<td>144,000</td>
<td>175,000</td>
</tr>
<tr>
<td>Actual Mfg. Expense</td>
<td>160,000</td>
<td>100,000</td>
<td>230,000</td>
<td>230,000</td>
</tr>
<tr>
<td>Budgeted Mfg. Expense</td>
<td>124,000</td>
<td>108,000</td>
<td>202,000</td>
<td>222,000</td>
</tr>
<tr>
<td>Controllable Variance</td>
<td>26,000</td>
<td>(8,000)</td>
<td>28,000</td>
<td>8,000</td>
</tr>
</tbody>
</table>
A, B, C & D represent examples of Actual Manufacturing Expense.
Arrows marked "c" indicate Controllable Variance.

Fig. 22 Budget vs Actual Manufacturing Expense
XYZ COMPANY
FLOW OF COSTS

Fig. 23
It can be seen from the foregoing that we have a simple statistical yardstick to assist us in the decision making process. In case of a sudden change in sales or production volume, we can determine the effect on company profits and probe deeper into specific areas for correction or change.

As you know, our company manufactures quite a variety of products, but only two of the most important are referred to in the product Profit and Loss on the following page.
XYZ COMPANY

Product Profit and Loss

For two months ended __________

<table>
<thead>
<tr>
<th>Units sold</th>
<th>Price</th>
<th>Product A</th>
<th>Product B</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>50,000</td>
<td>$4</td>
<td>75,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Net Sales</th>
<th>$200,000</th>
<th>$300,000</th>
<th>$500,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less Cost of Sales @ Std.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td>50,000</td>
<td>48,500</td>
<td>98,500</td>
</tr>
<tr>
<td>Direct Labor</td>
<td>35,000</td>
<td>90,000</td>
<td>125,000</td>
</tr>
<tr>
<td>Variable Factory Expense</td>
<td>38,000</td>
<td>92,250</td>
<td>130,250</td>
</tr>
<tr>
<td>Profit Contribution @ Std.</td>
<td>77,000</td>
<td>69,250</td>
<td>146,250</td>
</tr>
</tbody>
</table>

| Less Variances | | | |
| Labor & Expense | 1,000 | 500 | 1,500 |
| Shrinkage | 2,000 | 1,000 | 3,000 |
| Purchase Price | 2,000 | 500 | 2,500 |
| Profit Contribution @ Actual Mfg.* | 72,000 | 67,250 | 139,250 |

| Less Fixed Cost of Production | - | - | 40,000 |
| Mfg. Gross Profit @ Actual | | | 99,250 |
| Less Variable Sales Expense | 2,000 | 4,250 | 6,250 |
| Fixed Sales & Corp. Oper. | | | 10,000 |

<table>
<thead>
<tr>
<th>Net Income</th>
<th>$83,000</th>
</tr>
</thead>
</table>

*Contribution Margin @ Mfg. 52% 48% 100%
An alternative approach to the income statement would be to keep all manufacturing costs at standard for inventory purposes. All variances would automatically become period costs. These could be added to the fixed cost section. The balance sheet is only affected by under or over valued inventories as compared to current conventional accounting methods, but then creditors and financial analysts look to the earning potential of a company rather than balance sheet data. Today, the balance sheet of any company rarely reflects the concern's economic value.

Conclusion

It is concluded that the small business man should use budgeting techniques as outlined herein to assist him in decision making. It would appear appropriate to review a few basic points brought out in this thesis.

First, managing a business is concerned with the basic functions of planning, execution and control. A soundly conceived and dynamic budget system provides a planning and control system for management.

Second, budgeting is not a forecast prepared by accounting personnel. Instead, a budget represents the
accumulation and compilation of the detailed operating plans of every segment of a business.

Third, a budget is only of value if the variances of actual results from budgeted plans are followed up for analysis and corrective action. Corrective action can be taken either by, (1) making changes in operations so that the original plan can be achieved, or (2) modifying the budget to reflect revisions in plans.

Success in the use of these techniques requires the following practices:

1. The establishment of profit objectives. These are considered of prime importance as a measure of the company as a whole.

2. The approving of profit plans may be done at several levels of management. Final approval, however, rests with top management. The budget authority is normally responsible for consolidating the individual plans into a unified profit plan.

3. The length of the short-range profit planning period is normally one year for most industries. However, companies in certain
industries may use a shorter period, such as six months, which is commonly used by retail and wholesale firms.

4. The development of a detailed plan of operations or budget to support the profit objectives is necessary. This detailing includes sales objectives, capital expenditure objectives, expense objectives and cash objectives.

5. The active participation in planning at all levels is required. The common pattern in participation is that--
   a. Lower level supervisors participate by actively developing or reviewing plans for the area supervised.
   b. Successive screening and coordinating or plans occur at each higher level of management until finally approved by top management.
   c. One individual assumes responsibility for consolidation of all plans into a master plan of operations for review by top management, and
d. Top management formulates general planning objectives and finally coordinates and approves the overall planning program.

6. The communication of objectives is a valuable product of the budgeting process. This communication is two way; both up and down; and it occurs in meetings and conferences both in the planning stage and in the later analysis of variances from plan.

7. Sales forecasting of the company's volume is required. In addition, managers must develop general economic and industry forecasts.

8. Long-range planning beyond one year is necessary for the small businessman.

9. The development of standards of performance should be done extensively for both revenue and expense. The use of expense standards in the manufacturing, selling, and administrative areas must have incorporated into these standards a flexibility to make them variable by level of volume is paramount. Managers must stress the importance of
having the people responsible for performance participate in setting the standards.

10. Reporting the budget plan against the actual results is necessary to the attractiveness of the control process. Since timely corrective action is fundamental to effective control, the frequency and timeliness of control reports, consistent with the cost of preparing them, cannot be overemphasized. Monthly reports should be required.

11. Corrective action begins with a written explanation of significant deviations from plan, and an oral explanation. During meetings to discuss the deviations, supervisors use the opportunity to further train subordinates in the operation of the system and to gain additional insight into operating problems.

In many companies these meetings extend into a re-evaluation of future performance and a determination of the probable outcome based on new developments originally unforeseen.
12. Motivation of people is a principal stumbling block after the budget procedures and systems are technically and theoretically sound. The mechanics of planning and control must be clearly distinguished from the motivation of individuals. Here the art of leadership must be added to the science of control techniques.

In this connection, it is important to realize that the budget does not manage, but that people do.

After the budget system has been established, its success or failure depends almost entirely on sound human relations.

Budgeting today is playing an increasingly significant role in industry. With more widespread acceptance of the management information system concept, it is destined to play an even greater role.
BIBLIOGRAPHY
BIBLIOGRAPHY


OTHER PUBLICATIONS


Budgetary Control in Manufacturing Industries. A report prepared by the National Industrial Conference Board, 1951.


APPENDIX
XYZ - MANUFACTURING COMPANY

CHART OF ACCOUNTS

Effective June 1, 1966

Adaptable for Accounting, Budgeting and Data Processing


XYZ MANUFACTURING COMPANY

SECTION I - LISTING OF DEPARTMENTS

<table>
<thead>
<tr>
<th>Control Number</th>
<th>Cost Center or Department Name</th>
<th>Department Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>010</td>
<td>Manufacturing Burden</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Production</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Inspection</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Production Control</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Plant Maintenance</td>
<td>19</td>
</tr>
<tr>
<td>070</td>
<td>Sales Overhead</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sales Department</td>
<td>70</td>
</tr>
<tr>
<td>080</td>
<td>Corporate &amp; Operations Overhead</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corporate</td>
<td>80</td>
</tr>
</tbody>
</table>

Each cost center or department incurs costs for materials, payrolls, and overhead. To accumulate these costs, accounts by name and number and brief description are established. These are detailed in Section II.

SECTION II - PROFIT AND LOSS ACCOUNTS

<table>
<thead>
<tr>
<th>Inventoriable Costs - Production Dept.</th>
<th>Control Number</th>
<th>Name &amp; Description</th>
<th>Detail Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>200</td>
<td>Stockroom Inventories</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raw Materials</td>
<td>201</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Purchased Parts</td>
<td>202</td>
</tr>
</tbody>
</table>

Materials applied directly to the end product will be noted on all purchase orders in the account block under the applicable account number. Such materials will be placed in the stockroom. Variances from standards will be determined by Accounting.
SECTION II (cont.)

210 Work in Process - Materials
   Materials 211
   Parts 212
   Outside Processing 213

Materials and outside preparation costs are introduced into the production process. Charges may originate from job numbers and account numbers on purchase orders or from stockroom withdrawal tickets. Standard variances will be determined by Accounting and charged to proper variance accounts. Valid charges require both account number and job number.

230 Work in Process - Labor
   Fabrication 231
   Assembly 232

Wages paid for labor applied directly to product titled Direct Labor. Charges originate on hourly rated employee daily clock cards sent to Accounting for pay purposes. Valid charges require both the job number and account number. Standard variances will be determined by Accounting and reviewed with each supervisor.

240 Work in Process - Burden
   Manufacturing Burden 241

Applied to inventory on the basis of direct labor dollars on a standard (budget) variable overhead rate at normal capacity.

Cost of Goods Sold

<table>
<thead>
<tr>
<th>Number</th>
<th>Name &amp; Description</th>
<th>Detail Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>020</td>
<td>Cost of Sales at Standard Material Usage</td>
<td>021</td>
</tr>
<tr>
<td></td>
<td>Outside Processing</td>
<td>022</td>
</tr>
<tr>
<td></td>
<td>Labor Usage</td>
<td>023</td>
</tr>
<tr>
<td></td>
<td>Manufacturing Burden</td>
<td>024</td>
</tr>
<tr>
<td>030</td>
<td>Variances</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Purchase Price</td>
<td>031</td>
</tr>
<tr>
<td></td>
<td>Scrap</td>
<td>032</td>
</tr>
<tr>
<td></td>
<td>Labor Inefficiency</td>
<td>033</td>
</tr>
<tr>
<td></td>
<td>Over or Under Absorbed variance</td>
<td>034</td>
</tr>
<tr>
<td>040</td>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>
**EXPENSE COSTS**

**INDIRECT LABOR**

Indirect labor is that labor (wages paid) which is not directly applicable to a product. Hourly rated employees may be assigned to particular accounts 11 through 24.

<table>
<thead>
<tr>
<th>ACCOUNT NUMBER</th>
<th>NAME</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td><strong>Shipping &amp; Receiving</strong></td>
<td>Time charged to the clerical work and work involved in loading and unloading of materials in the Shipping &amp; Receiving Department. This number to be used only in those cases where the time cannot be charged to a production work order.</td>
</tr>
<tr>
<td>12</td>
<td><strong>Production Control</strong></td>
<td>Time charged to the clerical and physical work involved in scheduling, moving and recording the flow of materials within the plant. This operation is intended to be used only by those persons assigned to such work. Direct labor personnel will charge the casual movement of material to the production work order. This includes the operation of the fork lift and other material handling equipment.</td>
</tr>
<tr>
<td>13</td>
<td><strong>Packaging</strong></td>
<td>Time charged to the making of shipping containers and the packaging of materials for shipment or storage and which cannot be charged to a production work order.</td>
</tr>
<tr>
<td>14</td>
<td><strong>Transportation</strong></td>
<td>Time charged to the operation of company owned or controlled trucks and equipment hauling materials into and out of the plant.</td>
</tr>
<tr>
<td>ACCOUNT NUMBER</td>
<td>NAME</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>15</td>
<td>Maintenance Facilities</td>
<td>Time charged to the upkeep of buildings, grounds and equipment including painting, lubrication, repair, adjustments, janitorial work and any other work required to maintain the condition of company owned facilities.</td>
</tr>
<tr>
<td>16</td>
<td>Maintenance Capital Equipment</td>
<td>Time charged to work performed on company facilities in such a manner as to add to the value of such facilities. Time may only be charged to this account when the work done is covered by an approved Capital Equipment Request. The Capital Equipment Request number must also be shown.</td>
</tr>
<tr>
<td>17</td>
<td>Maintenance Tooling</td>
<td>Time charged to the repair and maintenance of company or customer owned production tooling. The name of the customer owning the tooling or for whom the tooling is being used must also be shown.</td>
</tr>
<tr>
<td>18</td>
<td>Tool Crib</td>
<td>Time charged by tool crib attendants including the repair and maintenance of perishable tools which may occur within the tool crib by the attendants.</td>
</tr>
<tr>
<td>21</td>
<td>Direct Labor to Indirect</td>
<td>Time of direct labor personnel not chargeable to a production work order. Unnecessary work performed on either production orders or indirect accounts should be charged to this number.</td>
</tr>
<tr>
<td>22</td>
<td>Holiday &amp; Vacation Pay</td>
<td>Time charged to paid holidays and vacations as outlined in employees handbook.</td>
</tr>
<tr>
<td>ACCOUNT NUMBER</td>
<td>NAME</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>---------------</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>23</td>
<td>Sick Pay</td>
<td>Time charged to paid sick leave as outlined in employees handbook.</td>
</tr>
<tr>
<td>24</td>
<td>Premium Pay</td>
<td>Used by Accounting Department only.</td>
</tr>
<tr>
<td>31</td>
<td>Salaries</td>
<td>Semi-monthly payments to officers, supervisors, and clerical help.</td>
</tr>
</tbody>
</table>
INDIRECT EXPENSE

Indirect materials, services and expenses of an overhead nature (as distinguished from inventory items) not readily identifiable in an end-product or specifically set out as a direct cost item in a purchase order or contract. These items must always be treated as overhead. No labor performed by an employee may be charged to any of these accounts.

<table>
<thead>
<tr>
<th>ACCOUNT NUMBER</th>
<th>NAME</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>Employee Benefits</td>
<td>Departmental cost of premiums at current rates for Workmen's Compensation, Group Insurance, and Payroll Taxes. The portion of this expense borne by Company.</td>
</tr>
<tr>
<td>35</td>
<td>Commissions</td>
<td>Amounts paid to agents or employees rendered in connection with the sale of the Company's products.</td>
</tr>
<tr>
<td>36</td>
<td>Supplies</td>
<td>Supplies for ordinary departmental operations, as shipping, office, reproduction, minor items used in production and assembly (office supplies, packing materials, drafting supplies).</td>
</tr>
<tr>
<td>ACCOUNT NUMBER</td>
<td>NAME</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>37</td>
<td>Employee Welfare</td>
<td>Contributions by company to Employee's Recreation. Other costs for gifts and remembrances on behalf of employees on a plant-wide basis.</td>
</tr>
<tr>
<td>40</td>
<td>Maintenance &amp; Repairs</td>
<td>Materials for use in maintenance of machinery, tools, fixtures, office machines and equipment, janitor and first-aid supplies. Towels (including towel service), toilet paper, protective clothing, cleaning rags. Cost of material and outside labor for repair and maintenance.</td>
</tr>
<tr>
<td>42</td>
<td>Perishable Tools</td>
<td>Small tools of perishable nature for fabrication and assembly operations. Non-capital durable item. (Gross net cost less than $200). Includes furniture, office machines and appliances.</td>
</tr>
<tr>
<td>44</td>
<td>Truck Expense</td>
<td>Materials and expenses for repairing, maintaining and operating company owned or leased trucks.</td>
</tr>
<tr>
<td>46</td>
<td>Freight In</td>
<td>Freight incoming and outgoing for supplies and equipment not added to the cost thereof.</td>
</tr>
<tr>
<td>48</td>
<td>Utilities</td>
<td>Costs of power, water and gas. Where identifiable (metered to area), charged to using department, or on basis of floor space usage.</td>
</tr>
<tr>
<td>50</td>
<td>Telephone &amp; Telegraph</td>
<td>All local and long distance telephone, TWX and telegraph charges. Charged by department of origin or department called (if collect).</td>
</tr>
<tr>
<td>ACCOUNT NUMBER</td>
<td>NAME</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------</td>
<td>------------------------------</td>
</tr>
<tr>
<td>52</td>
<td>Auto Expense</td>
<td>Expenses of employees for use of private vehicles on company business. (Mileage at established rates).</td>
</tr>
<tr>
<td>53</td>
<td>Travel</td>
<td>Actual travel costs, including subsistence or per diem, not chargeable to a job.</td>
</tr>
<tr>
<td>54</td>
<td>Entertainment</td>
<td>Expenses incurred by employees under approved policies for entertainment of themselves and business associates and customers.</td>
</tr>
<tr>
<td>55</td>
<td>Business Meetings</td>
<td>Costs incurred by employees in business meetings participated in by either employees or others.</td>
</tr>
<tr>
<td>56</td>
<td>Dues &amp; Subscriptions</td>
<td>Costs of membership in professional or business organizations, or of attendance at displays or conventions, exhibitions of such organizations. Subscriptions to technical, professional or business publications.</td>
</tr>
<tr>
<td>57</td>
<td>Contributions</td>
<td>Donations to charities, welfare organizations. Charged to C &amp; O only.</td>
</tr>
<tr>
<td>58</td>
<td>Professional Fees</td>
<td>Legal fees, engineering fees, other technical and professional fees, either retainer or occasional.</td>
</tr>
<tr>
<td>ACCOUNT NUMBER</td>
<td>NAME</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>59</td>
<td>Collection Expense</td>
<td>All costs incurred in the collection of accounts receivable and in the decision to extend credit. Included are such items as Agency Fees, Dun &amp; Bradstreet Service, etc.</td>
</tr>
<tr>
<td>62</td>
<td>Advertising</td>
<td>Costs of space in magazines, periodicals, catalogues, booklets, preparation of ads such as artwork, mural, photos, product folders, direct mailings, agency fees and out of pocket expenses.</td>
</tr>
<tr>
<td>64</td>
<td>Samples</td>
<td>Charges or costs of dealer aids and salesman samples, give aways, etc.</td>
</tr>
<tr>
<td>65</td>
<td>Sales Errors</td>
<td>Incorrect application or product determination made by the Sales Department which caused product scrap.</td>
</tr>
<tr>
<td>70</td>
<td>Space Rental</td>
<td>Rentals paid on leases of buildings and grounds, allocated by floor space usage.</td>
</tr>
<tr>
<td>71</td>
<td>Equipment Rental</td>
<td>Costs of leasing equipment either on monthly or long term basis. Includes applicable taxes.</td>
</tr>
<tr>
<td>72</td>
<td>Depreciation</td>
<td>Departmental costs of depreciation of fixed assets located in each department.</td>
</tr>
<tr>
<td>74</td>
<td>Insurance</td>
<td>All insurance except Group and Workmen's Compensation. Apportioned according to coverage - floor space, etc.</td>
</tr>
<tr>
<td>ACCOUNT NUMBER</td>
<td>NAME</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>76</td>
<td>Taxes &amp; Licenses</td>
<td>Departmental costs of city and county personal property taxes. (Space allocation basis). All licenses.</td>
</tr>
<tr>
<td>77</td>
<td>Royalty Expense</td>
<td>All Royalties paid under agreements with companies or individuals for Rights to use their patents and copyrights.</td>
</tr>
<tr>
<td>79</td>
<td>Franchise Taxes</td>
<td>C &amp; O expense only. California Corporation and Franchise Taxes.</td>
</tr>
<tr>
<td>80</td>
<td>Tooling Amortization</td>
<td>Write off of special purpose tooling over saleable product life.</td>
</tr>
<tr>
<td>90</td>
<td>Departmental Transfers</td>
<td>Allocation of departmental costs from other departments - accounting only.</td>
</tr>
<tr>
<td>92</td>
<td>Scrap Income</td>
<td>Receipts from sale of scrap or fully depreciated assets (Credited C &amp; O).</td>
</tr>
<tr>
<td>93</td>
<td>Cash Discounts Earned</td>
<td>(Credit Account). All discounts taken in ordinary course of business.</td>
</tr>
</tbody>
</table>
SECTION II (cont.)

Income Accounts

<table>
<thead>
<tr>
<th>Control Number</th>
<th>Name &amp; Description</th>
<th>Detail Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>Sales</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product A</td>
<td>001</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>002</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>003</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>004</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>005</td>
</tr>
<tr>
<td>000</td>
<td>Returns</td>
<td>008</td>
</tr>
<tr>
<td></td>
<td>Discounts</td>
<td>009</td>
</tr>
<tr>
<td>060</td>
<td>Other Income</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interest Earned</td>
<td>061</td>
</tr>
<tr>
<td></td>
<td>Gain or Loss on sale of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assets</td>
<td>062</td>
</tr>
<tr>
<td></td>
<td>Commissions Earned</td>
<td>065</td>
</tr>
<tr>
<td></td>
<td>Rental Income</td>
<td>066</td>
</tr>
<tr>
<td></td>
<td>Bad Debt Recovery</td>
<td>067</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>069</td>
</tr>
<tr>
<td>090</td>
<td>Other Expense</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interest Expense - Bank</td>
<td>091</td>
</tr>
<tr>
<td></td>
<td>Relocation Expense</td>
<td>092</td>
</tr>
<tr>
<td></td>
<td>Interest Expense - Other</td>
<td>093</td>
</tr>
<tr>
<td></td>
<td>Bad Debts</td>
<td>097</td>
</tr>
<tr>
<td></td>
<td>Provision for Inc. Taxes</td>
<td>099</td>
</tr>
</tbody>
</table>

SECTION III - ASSET ACCOUNTS

These are not pertinent to this thesis. However, the Control Detail Account format is applicable. For example, Control Accounts 100 through 500 and Detail Accounts in groups of 10 for each segment of Assets could be used. Control Account numbers 600 through 900 could be used for Liabilities and Capital.