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# Preparation and Control of a Budget

J. R. Tobey

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## N. A. C. A. BULLETIN

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SEPTEMBER 15, 1925

The Preparation and Control of a Budget

# N. A. C. A. BULLETIN

Section I

Vol. VII, No. 2

September 15, 1925

The Preparation and Control of a Budget

By

J. R. TOBEY, Eaton, Crane and Pike Company, Pittsfield, Mass.

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#### NATIONAL ASSOCIATION OF COST ACCOUNTANTS SEPTEMBER 15, 1925

## National Association of Cost Accountants

#### EDITORIAL DEPARTMENT NOTE

Both in large and small business enterprises, the formal budget is, in an increasing degree, supplanting the "guess" or "hunch" budget usually carried only in the minds of a few executives. Analyses of past business data, resulting in definite estimates, plans, and standards for the future, all organized into a specific program or schedule of operations, provide the best and only possible basis for a comparison of actual results or performance with planned or pre-determined results. Only so can management function intelligently and efficiently.

Mr. J. R. Tobey, the author of this Official Publication, has made quite a study of business budgeting for the company with which he is connected. The Publication presents in the main the results and methods of that experience. After completing his high school education in 1910, Mr. Tobey first went to work for a textile manufacturing concern with the idea of learning the business. He stayed in this business only one year. In 1911 he went to work for Eaton, Crane and Pike Company as clerk in their Systematizing Department. For the last fourteen years he has made a study of cost and general accounting work and has during that time undertaken several correspondence courses. At the present time he has charge of the cost and factory accounting work at Eaton, Crane and Pike Company.

#### THE PREPARATION AND CONTROL OF A BUDGET

The word "budget" originated from the Gallic word meaning "sack," Latinized as "bulga," leather wallet or bag, from which the English word was derived. The name applied to an account of the ways and means by which the income and expenditure for a definite period were to be balanced. The term first came into use in England about 1760. Since that time its use has expanded until now the term is applied even to the individual household budget.

#### PRINCIPAL ADVANTAGES OF A BUDGET

The principal advantages of a budget are:

1. Information as to what the expenses of the different branches of an industry should be in order to produce a profit of a certain amount on the invested capital. If a concern does not operate under a budget system, it is trusting to luck when approving expenditures in different departments. If it prepares operating statements two or four times a year, it may find that these statements show a loss instead of a gain. By the use of a budget a certain amount of expense is approved for each department, so that an operating statement prepared on the budget figures will show the desired profit.

2. The reduction of expenses. In order to prepare a budget it is necessary to study each item of expense charged to each account—say, for the last one or two fiscal periods. In large concerns which have thousands of entries, it is impossible for any one executive to approve all of these expenses. As a consequence, these expenses are approved by several executives, and this may result in duplication or unnecessary expense. If each one of these accounts is broken up, it is surprising to see the amount of expense which may be eliminated as unnecessary.

3. The setting up of standards. When a budget is prepared, it determines the task which has to be met: first, by the executive in charge of the expense; second, by the foreman in direct charge of the work; and third, by the worker. Give an individual a task and show him that you are taking an interest in the result, and you will be surprised at what he can accomplish. If a concern could get everyone in its employ—workers, foremen, and executives to think and cooperate, there is nothing that they could not accomplish.

4. The education of the foreman. The ordinary foreman knows little about the amount of labor, repairs to machinery, power, heat, and light, and sundry expense which he is spending in his department each month; and unless he is furnished with reports showing these expenses, he is seldom held responsible for the keeping of these expenses down to a minimum.

If he has a budget for indirect labor and he has helped to prepare that budget, he soon requests an analysis of his labor expense if he exceeds his budget amount in any one month, and he gradually begins to think how he can reduce that item of expense so as to make a good showing. Just as soon as he begins to think that he can save on one item of expense, he will try to find ways of saving on all items of expense concerning his department—such as, the turning out of lights at night before leaving the factory, thus reducing the power, heat, and light charge. He will also save on his repairs charges.

5. The uneven sales demand can be kept out of production schedules. If the sales budget has been properly determined, the factory will know how much to produce of a certain article each week or month in order to meet the demand. The proper scheduling of production so that there will be an even flow of work in the factory at all times is one of the biggest economies that can be made. If a factory does not have a sales budget and if it does not know how many of each article it will need to produce each month to meet the orders, the flow of production will be jerky. By this I mean that when a great many orders are in process the factory is working overtime and hiring all the help that can be Then, in a couple of months, it begins to lay off help; obtained. the orders have stopped coming in. If you could see this plotted, your operations would be full of peaks and valleys instead of being an even line.

The expensive part of this method of operating is the hiring of new help, i. e., the labor turnover. There are still a great many executives who do not realize the cost of a labor turnover. When there is a demand for labor, it is difficult to get; a premium is paid and you receive unskilled labor. The training of this unskilled labor is very expensive. A great deal of waste results and the production is slow. Just think what a saving can be made if you give an operator constant employment throughout the year! The operator becomes efficient and contented with an average wage, and this results in large profits for the company.

I hope that I have not devoted too much time to the scheduling of work, which is a big subject in itself; but if a concern can schedule its work so as to have an even flow of production, it results in economy in a great many ways.

6. The improvement and simplifying of processes and the standardizing of equipment. If a factory knows in advance how much it will be called upon to produce each month to meet the sales requirements, it is in a position to know just how much machinery it is necessary to have to meet these requirements. If it does not know this until the orders are actually received, there will be a time during the year when it will need not only all the help that can be got, but all the machines. This means that there will be a great deal of idle machinery during certain times of the year. This results in the tying up of money and excessive repairs and maintenance charges as well as depreciation and it requires a much larger factory to operate on this basis.

As an instance of what may be done, it was found that after budgeting our sales requirements our box making machinery was idle about fifty per cent of the time and that if we manufactured on schedule one-half of these machines could be eliminated.

7. A minimum inventory. If raw materials and finished goods are budgeted, a minimum amount can be carried, thereby increasing the turnover and reducing the amount of money tied up.

It is also possible to save a great deal in the purchasing of raw materials, because if it is known that a certain quantity is needed each month throughout the year, contracts can be placed for the entire amount with deliveries each month. This usually results in an increase of profits.

8. The possibility of the anticipated profit being wiped out by an unusual expenditure is prevented.

9. A knowledge of the income and expenses, monthly, so that sufficient cash will be on hand to pay expenses and it will not be necessary to borrow.

10. The setting of a task for each employee in the organization.

11. The coordination of sales and production with the financial resources.

12. A centralized executive control over the internal operations of the business.

#### POPULAR CONCEPTION OF A BUDGET

Until recent years budget control has been considered primarily in connection with governmental units. There has been much discussion of the city, state, and national budgets. The next step was the adoption of the budget by large industrial concerns.

I think it has been the general opinion that, because of the "red tape" involved, a budget is not suitable for a small concern. In reading many of the articles written, it may appear that there is a great deal of so-called red tape; but please remember that in a large concern it requires a certain amount of clerical detail to control a budget. The idea that a budget is only for a large concern is all wrong. It is just as necessary that a small concern have a budget, and it can be controlled to advantage in a very simple way. You will find that insurance companies and banks are advocating budgets for individuals. If a budget is the proper thing for an individual or for a household, then it certainly should be used by every cencern, whether large or small.

#### APPOINTING THE BUDGET CONTROLLER

In starting the budget the first step is to appoint a person to be budget controller, this person to have absolute control of the budget system. Around this controller should revolve all budget activities. It is customary and logical that he be some member of the cost or financial departments.

I would like to emphasize at this time that if a concern maintains a complete budget of all its accounts, the opportunity that the cost accountant has of analyzing and controlling these accounts is worth more to him in his accounting work and gives him more prestige with his concern than any other part of his duties.

#### DUTIES OF BUDGET CONTROLLER

The duties of the budget controller are as follows:

1. To notify the executives responsible for the expenses of the different branches of the firm on November 15 to prepare their budgets for the coming year.

2. To furnish department heads with data necessary for the drawing up of the budget. Such data usually consist of reports of past performance, or it may be information as to the estimated amount of business for the coming year.

3. To receive from department heads their estimates and to forward these with recommendations to the budget committee, if there is a budget committee, or to the president of the company for approval.

4. To supply the president or the officer of the company who decides on the amount of the budget with a comprehensive statement of all budget items in comparison with expenses of the previous or past years. This statement should be prepared in the form of a balance sheet and a profit and loss statement showing the estimated profit based on the budget figures.

5. To receive from the president the approved budget and to notify department heads.

6. To prepare for department heads monthly reports showing actual expenses as compared with the budget.

#### LENGTH OF BUDGET PERIOD

One important question which should be considered before installing a budget system is the length of the budget period. This period may be three, six or twelve months, depending on the nature of the concern. Sometimes certain expenses can be budgeted for a longer period than other expenses. I think that most expenses can be budgeted for a year, but with such items as sales it may be more practical in some concerns to budget these for three or six months. Certain raw materials are more standard than others and it may be more practical to budget these materials for three or six months; but most expenses should be budgeted for one year.

#### ORGANIZATION CHART

Now that we have appointed a person as budget controller, the next step is for him to look over his concern and see who are responsible for the expenses and accounts to be budgeted; that is, we first need an organization chart. In most large concerns this chart will show an officer of the company in charge of sales, another perhaps in charge of manufacturing, another in charge of stock, shipping and distribution, and still another in charge of administration. Under each of these different executives will be superintendents or managers, and under the managers, foremen, workmen, and so on throughout the organization.

In preparing this organization chart or in reviewing the present chart—if there is one—it may be necessary to suggest certain changes. For example, an expense should not be controlled by two persons as it will result in very poor control. Each will blame the other if the budget is exceeded. If the organization chart is a good one, there will be a distinct line of control. The officer in charge of manufacturing will have all expenses coming under the manufacturing of the goods, but will not have any part of the selling; nor will the officer in charge of selling have charge of part of the manufacturing.

#### **REVIEW OF ACCOUNTING SYSTEM**

If the accounting system is not in good order and the different expenses are more or less confused throughout the accounting scheme, it will be difficult to control the budget without a great deal of clerical detail. It is desirable to have the accounts arranged under the classifications shown in the operating statement.

- 1. Net Sales
- 2. Manufacturing Cost of Goods Sold
- 3. Stock and Shipping Expense
- 4. Selling Expense
- 5. Administrative Expense

If each one of these divisions is controlled by an officer of the company, so that there is no overlapping of responsibility between accounts, it is very much easier for the budget controller to control the budget and prepare his statements.

#### FIRST STEP IN SETTING UP A BUDGET

The first step in setting up a budget is for the president or board of directors to determine the desired percentage of profit which should be made on the invested capital. This is the first problem to be solved on paper. In analyzing this problem one must consider market conditions, cost of production, cost of sales including distribution, advertising, etc., because it is easy to say that a certain percent is desired when perhaps conditions will not warrant the earning of that amount. At another time, under different conditions, perhaps a larger percentage could be earned.

#### HOW TO PREPARE A BUDGET

In preparing a budget for a particular expense, it is necessary to carry out a great deal of detail; first, so that the officer of the company who reviews all the budgets can see the different items of expense; and second, so that the department head when called upon to explain why his expenses exceeded his budget in certain months will have the details of the budget to compare with the actual expenses.

Take, for example, a labor budget for one of the offices. The executive in charge of that branch of the concern informs the office manager to prepare his budget. In preparing it, he lists the names of each employee and the yearly amount of their salaries, also any increases or eliminations effective during the year. This gives the office manager a chance to look over the coming year's work in detail. It is his opportunity of thinking out improvements or ways of bettering the efficiency of his department. If there are any economies such as the combining of jobs or the elimination of certain work or any increase in the expenses due to additional work, they should be estimated and reported in detail.

Take an expense such as subscriptions to trade organizations, which will amount to a considerable sum if not carefully controlled. If an expense of this kind is itemized, there may be several subscriptions which can be eliminated because they have already served their usefulness during the year. As I said before, one of the principal advantages of a budget is the analyzing of expenses so that each item comes to the attention of some responsible person.

#### BUDGETING SALES

Before those responsible for the expenses of a concern can prepare their budget for the new year, they must know how much business it is estimated will be done. Hence, the sales manager must first prepare the sales budget. If statistics are kept, as they are in most well organized concerns, these figures will show the sales for each district; the district sales will be further divided showing the sales by different lines or kinds of product; and then these will be divided by salesmen.

The sales manager prepares, with the help of each district manager, a budget by districts. A great many things need to be considered in preparing this budget; such as, general business conditions, the possibility of expansion in new territories, competition by other concerns, the introduction of new lines of product, advertising program, salesmen's contests, etc.

It is customary in preparing sales budgets to establish quotas for each salesman for each line. Then the salesman has his budget and knows just how much is expected of him. If he does not sell his quota in a certain line, he has to explain to the district manager his reasons for failing to do so.

The sales budget must be carefully prepared because a great many other expenses—in fact, most of the expenses—are based on the amount of sales expected. The purchasing department plans to purchase a certain amount of materials to meet the sales demand. The factory prepares its manufacturing program to manufacture these goods, and most everything hinges on the correct budgeting of the sales.

It is very difficult to prepare a good sales budget without furnishing the sales department with a great deal of information. It is necessary for the sales department to have at least the following information:

1. Any changes in the policy of the company, such as the establishment of branch offices throughout the country, changes in prices, advertising campaigns, and development of new goods.

2. Information concerning general trade or market conditions. This information may be obtained through outside agencies or through industrial research carried on by the firm.

3. Reports showing sales for past periods.

#### **RESPONSIBILITY OF FOREMAN**

Before we take up the budget for the factory, I would like to say a word about the responsibility of the foreman. In order to make a budget successful, we must have the cooperation of each individual. It is particularly important that the foreman be taken into the confidence of those higher up and be made to feel the responsibility for the administration of his department. If this responsibility is given to a foreman and he is made to feel that he is a part of the management, he will take such an interest in his work and show such results that the company will reap the reward of such confidence many times.

It was not until we started to budget that we thought much about our foreman's being an executive for his part of the business. We first started by getting him interested in his cost of production and then we showed him how he could reduce this by the elimination of unnecessary indirect labor. Next we gave him control of repairs to machinery and sundry supplies, until now he controls almost every item of expense within his department.

At one meeting of our Foremen's Association, we explained how a department with a large floor space was charged more than a smaller department for such expenses as repairs to buildings, taxes, depreciation, janitor service, and other expenses distributed on a floor area basis. The very next day one or two departments reduced the space that they were using in order that they might reduce their expenses. Before this had been explained to them they could not be convinced that they did not need all the room they were using.

At the time we made the foreman responsible for the repairs to machinery and other repairs in his department, we started something that was very interesting. At first the charges were made from the repair tickets directly to the different departments without being approved by the foreman. This did not work out well at all because when a department exceeded its repair budget, the foreman said after receiving an analysis that he did not receive that amount of time in repairing his machinery. It finally came to a point where we had to arrange to send to each foreman a daily report of his repair charges. This brought out some very interesting things and we found that repair men were very careless in making out their tickets. It also resulted in the foreman seeing that a repair man left his department when he had completed a repair job, and he usually made a note of the elapsed time in order to check his analysis.

It is only natural that a foreman should try to make a good showing and do better than other foremen. It was our experience that suggestions from them made appreciable savings in direct operations and in the methods of our present operations as to moving and other expenses.

#### MANUFACTURING EXPENSE CONTROLLABLE BY FOREMAN

The following expenses with a few exceptions can be controlled by the foreman:

- 1. Labor Direct and Indirect
- 2. Supplies and Sundry Expense
- 3. Repairs to Machinery
- 4. Power, Heat, and Light
- 5. Taxes, Depreciation, and Insurance

#### INDEX FIGURES IN MANUFACTURING DEPARTMENTS

The budgeting of direct and indirect labor in manufacturing departments is a difficult matter to control in any industry which has a varied product. To control these expenses we determined a standard cost or index figure for each department, based on a standard period. We determined this standard cost for all forms of product in each department; that is, if a department produced two or three different kinds of boxes, a standard cost was determined for each kind of box. Each week the production is figured at the standard cost and this determines the standard payroll. The actual payroll is then divided by the standard payroll which gives us, after moving the decimal point two places to the right, a figure which is over or under 100. If it is over 100, the department is doing better than the standard; and if it is under, the actual payroll is greater than the standard.

In each department a chart is posted and the curve shows the trend of the efficiency in that department. This chart is in plain view and the foreman takes great pride in keeping his standard as much above 100 as possible.

This index figure, as we call it, has a tendency to eliminate unnecessary overtime. I know of a plant where overtime was so general and so sought after that the foreman was frequently taken to task by the workers who felt that they were not getting their share of the overtime. In this same plant workers were allowed to stay out days and work overtime nights. This was during the war or right after it when overtime received a higher rate of pay than the regular time, but it showed the lack of control and responsibility for this expense. The budget system will generally stop this kind of graft.

#### BUDGETING SUNDRY EXPENSE AND SUPPLIES

Our experience was that before sundry supplies and miscellaneous departmental expenses were budgeted, it was very noticeable that foremen requisitioned large quantities of supplies, possibly several months' supply at one time. After the foremen controlled his own budget, he was very careful to get only enough supplies for his immediate needs and he was also careful in giving these out. Large supplies may deteriorate in the shop or be stolen. Where no particular attention is paid by the company to such supplies, employees get careless and think nothing of taking some of them home, or they may be dissipated throughout the plant by borrowing. Thus, the foreman who requisitions them out of stores may actually use only a small part for his purposes.

It is a hard task to go to a department foreman and tell him that he uses so few of a certain printed form that it does not pay to print it; but if this expense is budgeted and you can show him just what it costs to print this form, he begins to think that perhaps it would be cheaper for him either to use something else or get along without it.

#### MATERIAL BUDGET

After we have determined the labor budget and a schedule for each manufacturing department, it is necessary that we next turn to the material budget. In budgeting sales we determined the estimated amount of each article to be sold. Taking this same basis we determine the amount of material necessary to produce this number of articles. With these two things in mind—the estimated sales of each article and the schedule of labor in each department to produce it—we determine our schedule of material to supply the factory so that it can keep pace with the sales schedule.

Now that we have determined the amount of different kinds of material needed each week and after considering the inventory on hand, we can prepare a schedule for the purchasing department so that it can purchase with regular deliveries every period a certain amount of material. The purchasing agent must keep in touch with the market at all times to make possible any revision of the material budget.

#### SELLING EXPENSE BUDGET

On account of the limited time, it is possible for me to say only a few words about the different expense budgets of a concern. There are two main classes of selling expense:—

1. The expense of securing the order

2. The expense of storing the goods after they are manufactured, the shipping, packing, and delivery to the customer.

The first group may be subdivided into:---

a. The expense of sales

b. Salesmen's salaries and commissions

c. Traveling expense

- d. Maintenance of branch selling offices
- e. Advertising.

Some of the expenses in the second group are:---

- a. Storage
- b. Packing and shipping
- c. Freight, cartage, and express.

All of these expenses need to be broken down in preparing the budget.

#### THE ADVERTISING BUDGET

For a good many years many firms have set aside a certain amount for advertising. This advertising budget may be determined in the following ways:—

1. By basing it on a preceding period and increasing or decreasing this amount as conditions warrant.

2. By determining a certain percentage of the estimated sales.

3. By allowing a certain amount of each product sold.

#### PLANT AND EQUIPMENT

Up to this time we have considered the budgeting of our manufacturing activities. Now we shall consider the additions to plant and equipment for two purposes: first, so that the factory will have the necessary equipment to carry out its production program; and second, so that the financial executive will have funds in his budget to buy the equipment.

It is necessary to know the estimated equipment at the end of each month in order to prepare an estimated balance sheet. To obtain this figure we must know the value of equipment at the beginning, the amount of depreciation to be written off, the value of new equipment purchased, and the value received from equipment disposed of. From these figures we can arrive at the value of equipment at the end of the period.

The preparation of this budget is usually done by department heads and by the engineering department. It is reviewed and adjusted by the budget controller and chief executive. To control this budget a certain few persons, such as superintendents and other responsible persons, should have the authority to sign requisitions on the purchasing department in amounts up to, say, fifty dollars. Requisitions for the purchasing of equipment amounting to more than fifty dollars should be signed by an officer of the company.

#### CASH

Just as with plant and equipment, it is necessary for the financial executive to know the cash on hand at the beginning of the period and the receipts and disbursements during the period in order to estimate the amount on hand at the end of the period. This amount will be used in the estimated balance sheet. He must know the amount of cash received from customers' accounts, from notes and accounts receivable, and from all other sources. The same thing applies to disbursements.

Reports should be made to the treasurer showing these items in detail. If in a certain month there is not sufficient cash, perhaps on account of the accumulation of inventory in certain months, the treasurer may have to borrow from the bank. If these budget estimates are presented to the bank, it is much easier to obtain a loan than if a concern waits until there is an actual cash shortage.

#### CONTROL OF BUDGET

The determination of a budget for each item of expense or income is only part of a complete budget system. One of the most important parts is the control of the budget. It will do no good to say that five thousand dollars will be spent for this or that expense if the expenditure is not controlled. The control is through the cost and accounting departments. It is necessary that a concern have a good accounting classification so that the general books will have all expenses of a certain kind together. If the selling expenses are confused with the manufacturing expenses, it is difficult to determine the whole selling expense without a great deal of detailed analysis. The five main divisions referred to in the first part of this paper must not be confused. These divisions are:—

- 1. Net Sales
- 2. Manufacturing Cost of Goods Sold
- 3. Stock and Shipping Expense
- 4. Selling Expense
- 5. Administrative Expense.

Under the manufacturing expenses should be an account for each department, and these departmental accounts should be further divided between labor, power, heat and light, repairs to machinery, tools and fixtures, sundry expense, etc.

The accounting department should prepare for the cost department a trial balance in detail as soon after the first of the month as possible. It is necessary that the budget reports be prepared as soon as possible after the books have been closed. Otherwise, the information is presented to the persons responsible for the different items of expense after it is so old that it is hard for these department heads to remember the details.

A complete report should be sent to each executive responsible for his share of the budget. For example, the vice-president in charge of selling should receive a complete report of all sales and selling expenses; the vice-president in charge of manufacturing should receive reports for all manufacturing activities; and reports should also be sent to foremen and department heads who are directly in charge of the different activities under these officers. These reports should show: first, the estimated budget for the month as compared with the actual figures; second, the estimated budget to date as compared with the actual figures to date.

The president of the company should receive a monthly report of all budget expenses, but these should be summarized as he need not be bothered with the details unless some particular item is unusual; that is, unless it does not compare favorably with the budget estimate. He should receive a monthly profit and loss statement and balance sheet showing the actual figures as compared with the budget estimates.

#### SUMMARY

In conclusion I would like briefly to summarize the benefits which seem to me to be realizable from the operations of a business under the budget system :—

1. It insures planning ahead in all departments of the business on a basis probably insuring a reasonable chance to secure the desired profit.

2. Centralized control is secured over all divisions of the business.

3. It emphasizes the need of good organization.

4. Sales and production plans are coordinated with financial resources.

5. Definite plans and goals are set up.

6. It will show the importance of keeping an uneven sales demand out of the production schedule. This reduces the labor turnover by having constant employment throughout the year. The result is reduced cost and more contentment on the part of the employees.

7. Operating efficiency will be increased:

- a. By the definite assignment of responsibility for expenditures.
- b. By the use of wage payments based on the results of time study.
- c. By the efforts to improve, alter and standardize machinery and processes.
- d. By the maintenance of a steady flow of production in all departments.

8. The inventory of raw and completed materials can be kept to a minimum allowing more of a turnover, and the work in process can be reduced.

9. Costs and statistics can be used for purposes of control rather than for historical information.

10. The possibility of anticipated profits being wiped out by over-expenditures is prevented.

11. The financial department is better able to provide the necessary cash for wages and purchased material.

12. Economies are realized because an opportunity is given to study expenses before they are actually incurred.

13. The budget serves as a measuring stick to compare the standards and promises with actual performance.

14. Executives have a great deal more time to consider important matters and to plan for improvements.

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