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Zero-Base Budgeting

A PRACTICAL MANAGEMENT TOOL FOR EVALUATING EXPENSES

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To C. J. "Tommy" Thomsen, member of the Board of Directors, Cecil Dotson, Grant Dove, Jim Fischer, and Bryan Smith, Vice-Presidents, of Texas Instruments, who saw the need for and were the first to adopt the zero-base budgeting process; and to Governor Jimmy Carter of Georgia, whose desire to improve the effectiveness and efficiency of State Government led to the adoption of the process in Georgia; plus Tish and Eric.

SERIES PREFACE

No one needs to tell the reader that the world is changing. He sees it all too clearly. The immutable, the constant, the unchanging of a decade or two ago no longer represent the latest thinking—on *any* subject, whether morals, medicine, politics, economics, or religion. Change has always been with us, but the pace has been accelerating, especially in the postwar years.

Business, particularly with the advent of the electronic computer some 20 years ago, has also undergone change. New disciplines have sprung up. New professions are born. New skills are in demand. And the need is ever greater to blend the new skills with those of the older professions to meet the demands of modern business.

The accounting and financial functions certainly are no exception. The constancy of change is as pervasive in these fields as it is in any other. Industry is moving toward an integration of many of the information gathering, processing, and analyzing functions under the impetus of the so-called systems approach. Such corporate territory has been, traditionally, the responsibility of the accountant and the financial man. It still is, to a large extent—but times are changing.

Does this, then, spell the early demise of the accountant as we know him today. Does it augur a lessening of influence for the financial specialists in today's corporate hierarchy? We think not. We maintain, however, that it is incumbent upon today's accountant and today's financial man to learn *today's* thinking and to *use today's* skills. It is for this reason the Wiley Series on Systems and Controls for Financial Management is being developed.

Recognizing the broad spectrum of interests and activities that the series title encompasses, we plan a number of volumes, each representing the latest thinking, written by a recognized authority, on a particular facet of the financial man's responsibilities. The subjects contemplated

for discussion within the series range from production accounting systems to planning, to corporate records, to control of cash. Each book is an in-depth study of one subject within this group. Each is intended to be a practical, working tool for the businessman in general and the financial man and accountant in particular.

ROBERT L. SHULTIS

FRANK M. MASTROMANO

WHY ZERO-BASE BUDGETING?

The need for an effective budget procedure is increasingly apparent in both industry and government today. All institutions must adapt to an environment in which the allocation of resources presents a constantly deepening challenge, with corporations facing decreasing profits, spiraling costs, and increasing pressures to hold down prices, and with governments going bankrupt in the face of ever increasing demands and costs for services. To effectively allocate limited resources, a budget procedure must determine simultaneously the answer to two questions:

1. Where and how can we most effectively spend our money?
2. How much money should we spend? (What should the dollar amount of limited resources be? We can always increase expenditures in industry at the expense of profits or increase expenditures in government at the expense of the taxpayer!)

To answer these questions, most corporations and government agencies use the current operating and expenditure levels as an established base, from which they analyze in detail only those increases (or decreases) desired—thus looking at only a small fraction of the final budget dollars approved. This typical approach leaves two significant questions unanswered:

- How efficient and effective are the current operations that were not evaluated?
- Should current operations be reduced in order to fund higher priority new programs or increase profits?

I first became involved in budgeting in 1968 in the Staff and Research divisions of Texas Instruments. At this time we were facing a budget

x **Why Zero-Base Budgeting?**

decrease. If we were looking for a 5% decrease, we asked managers to identify what they would reduce if their budgets were cut 10%—and then we chose the 5% reduction from the 10% identified. After the budgets were set, a senior vice-president by the name of Cecil Dotson said, “I know in detail what you’re *not* going to do, I would now like to find out what you *are* going to do,” and then proceeded to hold a series of meetings to review the programs of each department. During this review, three problems were identified that I think are common in budget procedures throughout industry and government:

1. Some goals and objectives had not been established, or stated goals and objectives as understood and anticipated by top management were not realistic in light of the final amount of money budgeted. (In my conversations with several other companies, I have been told that they first establish their budgets and then determine their goals and objectives—which seems to put the cart before the horse.)

2. Some operating decisions had not been made that affected the amount of money required. I remember that we had identified a shortage of electrical capacity for the Dallas, Texas, manufacturing needs for the coming year, but we had not determined which of three possible alternatives to select to solve this problem. We had identified alternatives to (1) purchase the additional capacity from the power company, which would cost a premium since the capacity was needed at a peak load period when the rates were highest; (2) purchase additional capital equipment; or (3) transfer some temporarily excess and backup equipment from our Attleboro, Massachusetts, location to cover our needs. Each of these alternatives had significantly different budget and cash flow impacts, but this consideration fell into the crack as far as the budget development was concerned.

3. Budget dollars were not strictly allocated in accordance with changing responsibilities and work loads. Some work loads had increased significantly while others had decreased, yet everyone had his budget cut from 1 to 10%. This mismatch between the job to be done and the budget allocation was identified and corrected only because we went through this detailed analysis after the budgets were set.

At the end of this review we concluded that we wanted some type of budgeting procedure that would force us to identify and analyze what we were going to do in total, set goals and objectives, make the necessary operating decisions, and evaluate changing responsibilities and work loads—not after the budgeting process, but during it, as an integral part of the process.

From the identification of these desires, I developed the planning and budgeting methodology that we termed zero-base budgeting. (The basic concept of attempting to reevaluate all programs and expenditures every year—hence the term zero-base—is not new. However, to my knowledge the only formalized attempt at zero-base budgeting was an unsuccessful attempt by the Department of Agriculture in the early 1960's, which did not resemble the methodology used successfully in both industry and government as described in this book, although some recent developments in budget procedures are headed in the direction of zero-base budgeting.) This process was used to prepare the 1970 budget for the Staff and Research divisions of Texas Instruments. The implementation of zero-base budgeting was a team effort across all Staff and Research departments, headed by a member of the Board of Directors, C. J. (Tommy) Thomsen, and vice-presidents Cecil Dotson, Grant Dove, Jim Fischer, and Bryan Smith. Zero-base budgeting was then expanded throughout all divisions of Texas Instruments to prepare the 1971 budget.

After the implementation of zero-base budgeting in Texas Instruments, I wrote an article describing the process for the November/December 1970 issue of the *Harvard Business Review*. This article was subsequently read by the then newly elected Governor of Georgia, Jimmy Carter, who thought that the process was needed and could be effectively applied to the State of Georgia. I subsequently left Texas Instruments to help install zero-base budgeting for Governor Carter, and it was used to develop the entire executive budget recommendation for the State of Georgia for Fiscal Year 1973 (July 1972–June 1973). Since then, the process has been adopted by other corporations and governmental agencies.

The philosophy and procedures used to install zero-base budgeting in industry and government (as well as the benefits obtained and the general problems faced) are almost identical, with the mechanics differing slightly in each case to fit the needs of each user. The process requires each manager to justify his entire budget request in detail, and puts the burden of proof on him to justify why he should spend any money. Each manager must prepare a “decision package” for each activity or operation, and this package includes an analysis of cost, purpose, alternative courses of action, measures of performance, consequences of not performing the activity, and benefits. The analysis of alternatives as required by zero-base budgeting introduces a new concept to typical budgeting techniques. Managers must first identify different ways of performing each activity—such as centralizing versus decentralizing operations, or evaluating the economy of in-house print shops versus commercial printers. In addition, zero-base budgeting requires that

managers identify different levels of effort for performing each activity. They must identify a minimum level of spending—often about 75% of their current operating level—and then identify in separate decision packages the costs and benefits of additional levels of spending for that activity. This analysis forces every manager to consider and evaluate a level of spending lower than his current operating level; gives management the alternative of eliminating an activity or choosing from several levels of effort; and allows tremendous trade-offs and shifts in expenditure levels among organizational units.

Once the decision packages have been developed, they must be ranked or listed in order of importance. This ranking process allows each manager to explicitly identify his priorities, merges decision packages for ongoing and new programs into one ranking, and allows top management to evaluate and compare the relative needs and priorities of different organizations to make funding decisions. As the list of decision packages increases the cost also increases, and top management can decide at what point on the list the added costs outweigh the benefits. Decision packages of lower priority—below that point—would not be funded.

Zero-base budgeting provides top management with detailed information concerning the money needed to accomplish desired ends. It spotlights redundancies and duplication of efforts among departments, focuses on dollars needed for programs rather than on the percentage increase (or decrease) from the previous year, specifies priorities within and among departments and divisions, allows comparisons across these organizational lines as to the respective priorities funded, and allows a performance audit to determine whether each activity or operation performed as promised. Changes in desired expenditure levels do not require the recycling of budget inputs, but the decision package ranking identifies those activities and operations (decision packages) to be added or deleted to produce the budget change. The list of ranked packages can also be used during the operating year to identify activities to be reduced or expanded if allowable expenditure levels change or actual costs vary from the budget. The process also gives top management a good tool with which to judge the performance of employees, and through the necessary involvement of managers at all organizational levels it gives managers a greater sense of responsibility for their budgets and the tasks they have committed to in order to obtain their budgets.

In the long run, the most significant impact from zero-base budgeting will occur in the middle and lower levels of management, where managers will have to evaluate in detail their planning, operations, efficiency, and cost effectiveness on a continuous basis. In industry, corporate profits should be improved because high priority new programs will be

funded in part by improved efficiency and elimination or reduction of those current activities of lesser importance to the organization. In government, the taxpayer should benefit because high priority new programs can be funded at the expense of obsolete or redundant programs without significant reductions in service.

PETER A. PYHRR

Wheeling, Illinois
May 1972

Zero-Base Budgeting

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CHAPTER 1

THE ZERO-BASE BUDGETING PROCESS

On December 2, 1969 at the Plaza Hotel in New York City, Dr. Arthur F. Burns, then counselor to the President of the United States, addressed the annual dinner meeting of the Tax Foundation on the "Control of Government Expenditures." In this speech Dr. Burns identified the basic need for zero-base budgeting, but he also expressed his concern that such a process would be difficult if not impossible to implement:

Customarily, the officials in charge of an established program have to justify only the increase which they seek above last year's appropriation. In other words, what they are already spending is usually accepted as necessary, without examination. Substantial savings could undoubtedly be realized if [it were required that] every agency . . . make a case for its entire appropriation request each year, just as if its program or programs were entirely new. Such budgeting procedure may be difficult to achieve, partly because it will add heavily to the burdens of budget-making, and partly also because it will be resisted by those who fear that their pet programs would be jeopardized by a system that subjects every . . . activity to annual scrutiny of its costs and results.

However, as experience in Texas Instruments, Inc. and the State of Georgia has indicated, this kind of budgeting need not "add heavily to the burdens of budget-making." In fact, effectively planned and properly managed, zero-base budgeting can actually reduce the burdens of budget making while significantly improving management decision making and the allocation of resources.

The zero-base budgeting process, as used by both Texas Instruments and the State of Georgia, is identical in philosophy and general procedures, although the specific mechanics of implementation differ slightly

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to fit the particular needs of each organization. Zero-base budgeting is readily adaptable to organizations that have significantly different operations, needs, and problems, and the following chapters will discuss the available adaptations that make this budgeting process an effective management tool in both industry and government.

THE PLANNING AND BUDGETING PROCESSES IN PERSPECTIVE

Many managers have suggested that zero-base budgeting be renamed “zero-base planning” or “zero-base planning and budgeting” because the process requires effective planning and immediately shows up any lack of planning. The planning and budgeting process can be contrasted as follows:

Planning identifies the *output* desired.
Budgeting identifies the *input* required.

Planning is more general than budgeting. Planning establishes programs, sets goals and objectives, and makes basic policy decisions for the organization as a whole. Budgeting analyzes in detail the many functions or activities that the organization must perform to implement each program, analyzes the alternatives within each activity to achieve the end product desired, and identifies the trade-offs between partial or complete achievement of the established goals and the associated costs. Exhibit 1-1 shows the relationship required between planning and budgeting. This relationship is dynamic because the resources required to achieve the desired goals are not unlimited. Therefore, we must determine whether achieving the last 10% of each goal requires 25% of the cost, or vice versa; whether we *can* achieve each goal; and whether we must eliminate and/or reduce some goals. If we fixed our goals, the zero-base budgeting process would be a suboptimization tool, telling us how best to achieve the given results. However, the realistic requirement to modify goals based on a cost/benefit analysis makes the zero-base budgeting process both a suboptimization and total-optimization tool.

If we take a look at this same budgeting and planning relationship from the point of view of those managers who will design and implement programs and activities to achieve the desired goals, we have the relationship shown in Exhibit 1-2. These managers need to have an understanding of the current organization and operations before they can design each program. This need is created by several factors: