



Research Article

A servant of two masters: The dual role of the budget in nonprofits

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In the absence of clear and acceptable measures for outcomes, the budget is probably the most important managerial tool for nonprofits. Nevertheless many nonprofits use their budget solely for fund raising and neglect its managerial role. A properly designed budget should have a dual role: it should provide the organization's management with tools for decision making and at the same time should serve as a fund raising tool by presenting a clear picture of the organization's programs. These two goals require two different financial presentations, which the budget should be able to address. This paper uses a case study of an Israeli nonprofit that provides services to drug addicts, in order to demonstrate the dual role of the budget. The use of the budget for decision making is demonstrated by combining the economic presentation of the budget with a judgmental scale that is derived by Analytic Hierarchy Process (AHP). Then the budget for fundraising is constructed and the different methods of allocating fixed costs are discussed. Finally the concept of "true program cost" – a term which is often used by donors and funders - is discussed and is shown to be futile.

Keywords: Nonprofits, budget, AHP, cost accounting, NGOs, fundraising

INTRODUCTION

In spite of the significant importance of the budget to nonprofits' management, its proper use is not as common as one would expect. Many organizations operate without a budget at all, while others use the budget exclusively for fundraising but neglect its use as a managerial tool. At the same time donors, foundations and government agencies (hereinafter "funding agencies") demand to see the budgets of the programs that they fund, without a full understanding of their implications. Moreover, each funding agency develops its own unique format for budgetary presentation, without taking into consideration the organization's capability to provide reliable financial figures. Thus many nonprofits manage their programs without a proper knowledge of their cost structure, but continue to submit to their funding agencies "budgetary reports" merely to comply with their demands. This situation is sometimes referred to as the "Dance of

Deception"¹.

A nonprofits' budget should serve simultaneously both as a tool for internal decision making and as a tool for presentation and fund raising. To achieve the first goal the design of the budget should follow certain principles that are derived from two modern managerial accounting methods:

- Activity Based Costing (ABC)²
- Throughput Accounting³

ABC suggests that the organizational budget, and the respective managerial accounting system, should reflect the organization's activities. Traditional cost accounting

1 Foster (2008) presents the term the Dance of Deception in a slightly different context.

2 For a full exposition of ABC see Kaplan et al. (1998).

3 Throughput Accounting is described in Goldratt et al. (1988) and Goldratt (1991).

follows the organizational structure as the basis for budgeting. However, budgeting according to activities makes much more sense in terms of managerial decision making.

Throughput accounting defines the criteria for the allocation of costs to activities so that the budget will provide a correct economic picture of the organization. For this purpose the allocation of costs to activities has to follow an economic criteria instead of the conventional accounting criteria. This is achieved by applying the concept of alternative cost to each activity using the following rules:

- The cost of a new activity is defined as the incremental (variable) cost that will be added to the organization as a result of the inception of the activity.
- The cost of an existing activity is defined as the variable⁴ cost that would be saved if the activity is discontinued.

When such procedure of allocating costs to activities is followed, the remaining cost items that are not classified as variable costs of any one of the activities should be defined as the fixed costs of the organization. The use of the economic criteria to classify costs to activities is essential if we want the budget to serve as a tool for decision making. However, such classification of costs is not in accordance with conventional cost accounting that classifies cost according to program (direct) costs and administrative (indirect) costs - also referred to as "overhead". Unlike the economic classification, the accounting criteria for classifying cost items as program or overhead is not objective and is based on judgment. Moreover, organizations try to stretch the definition of program costs to the maximum due to the fact that high overhead rate is associated with lack of efficiency. It should be noted that the term "fixed costs" is not identical with overhead. In most cases the fixed costs will be significantly higher than the overhead costs (especially in organizations that have a significant cost component which is related to their facilities).

The relationship between the economic and the accounting classifications of costs is presented in Table 1 hereinafter:

Table 1: Classification of Costs

Economic classification	Accounting Classification
Variable (Economic cost)	Direct
Fixed	Direct
Fixed	Indirect (Overhead)

⁴ The term "variable costs" is usually used to describe the costs that vary with changes in output. In the discussion here the definition is different and relates to the incremental cost that is associated with the inclusion or exclusion of activities.

Variable costs are part of the direct costs, while the indirect costs (overhead) are almost always fixed. The novelty in table 1 is in its middle row which presents costs that are fixed, but nevertheless are classified as direct costs. Examples are rent and maintenance of facilities that serve the programs and salaries of programmatic staff that oversees the entire programs of the organization, but is not part of any specific program.

To complete the organizational budget we have to classify the various income sources to the activities. This process is pretty straightforward since most of the income sources of nonprofits are designated to specific activities. Non designated income sources should be classified as "general" since they serve the entire organization.

MATERIALS AND METHOD

Using the above mentioned principles transforms the organizational budget to an economic map⁵ of the organization's activities. The economic map is a planning tool which presents the economic interaction between the various activities and the implications of different policies. As was discussed before, the cost items that were classified to each activity would have been saved if it was discontinued. As a result of that the difference between the income of the activity and its cost represent its "economic contribution" to the organization. The economic contribution reflects by how much each activity contributes to the overall surplus or deficit of the organization. If the organization decides to discontinue a certain program it will loose the income of the program but will save its cost. Thus the economic contribution is the net effect of discontinuing each program. Discontinuing a program with a negative economic contribution will increase the overall surplus (or decrease the overall deficit), while discontinuing a program with a positive economic contribution will decrease the overall surplus (or increase the overall deficit).

The economic map shows explicitly which programs are subsidized and which programs are subsidizing. The "general activity" of the organization also has an economic contribution which is the difference between the unrestricted income and the fixed costs. Obviously the sum of the economic contributions of all the programs must be non negative in order for the budget to be balanced. Moreover, if some of the programs are subsidized – e.g. their economic contribution is negative – the positive economic contributions have to offset this deficit. The economic map enables the organization's management to see these programs explicitly and to decide whether the contribution of each such program to the goals of the organizations justifies its subsidy.

In order to demonstrate the desirable properties of the

⁵ The concept of the economic map is also presented in Malki (2010).

Economic Map	Program A	Program B	Program C	Program D	Program E	Fixed Costs	Total
Income	4,064,403	4,305,820	1,363,460	119,247	421,791	1,339,592	11,614,315
Government	1,698,307	4,191,327	0	0	0	0	5,889,634
Donations	0	0	819,016	0	0	955,035	1,774,051
Fees for services	2,357,097	105,493	544,444	119,247	421,791	0	3,548,073
Others	9,000	9,000	0	0	0	384,557	402,557
Expenses	3,126,787	3,169,329	691,058	194,273	727,485	3,100,991	11,009,923
Salary	1,860,515	2,113,510	423,328	179,100	461,528	1,254,793	6,292,774
Service suppliers	279,202	149,155	64,180	0	0	15,722	508,259
Maintenance	136,557	136,557	15,173	15,173	0	14,834	318,295
Utilities and municipal taxes	13,457	13,457	1,417	0	0	306,797	335,129
Rent						500,000	500,000
Transportation	135,771	135,771	135,771	0	0	391,340	798,653
Communication	0	0	0	0	0	231,993	231,993
Administrative costs	27,976	41,965	0	0	0	355,512	425,453
Perishable materials	673,308	578,914	51,188	0	265,957	0	1,569,367
Reserve	0	0	0	0	0	30,000	30,000
Economic contribution	937,617	1,136,492	672,402	-75,026	-305,693	-1,761,398	604,392

Figure 1. All figures are in NIS

economic map for decision making, I present hereinafter a case study of an Israeli nonprofit. The organization provides services for drug addicts, which include rehabilitation programs for children and adults and supportive programs for prevention and education. The analysis was made in 2009 by the request of the organization's management since it experienced severe financial difficulties and looked for ways to improve its situation.

RESULTS AND DISCUSSION

The Economic Map

Figure 1 herein presents the economic map of this organization – based on its budget for 2009.

The organization operates five programs that are marked by letters (A-E). Programs A and B are the rehabilitation programs (and also the largest programs of the organization), while programs C-E are supportive programs.

The economic map shows that programs A, B, and C are the subsidizing programs. In order to achieve a balanced budget the total economic contribution of the subsidizing programs has to cover at least the deficit from the fixed costs (-1,761,398 NIS) and the deficit of programs D and E which have negative economic contributions (e.g.: subsidized program). In our case study however there is also a planned surplus of 604,392 NIS, which has to be covered by the subsidizing programs⁶.

The economic map puts a clear price tag on the

subsidized programs, by presenting the cost of the subsidy explicitly. Obviously a negative economic contribution does not imply that the program should be discontinued. However, it does imply that there should be a strong social justification for such program.

In our case study the economic map raised the concerns of the management about program E, which had a negative economic contribution of -305,693 NIS.

Combining Economic and Social Contributions

In order to see the full picture – which combines social benefit and economic contribution - each program should be measured in two dimensions: its contribution to achieving the organization's social goals and its economic contribution⁷. The result is a "focusing diagram" that is presented in Figure 2 hereinafter. The horizontal axis of the focusing diagram is the economic contribution of each program in a normalized scale⁸. The vertical axis shows the contribution of each program to the organization's goals, also in normalized scale. Assessing the contribution of each program to the organization's goals was done by Analytic Hierarchy Process (AHP)⁹.

The focusing diagram is a powerful planning tool since it enables the organization's management to review

⁶ Since nonprofits are discouraged from showing a planned surplus in their budgets, such surplus will sometimes be reflected as a "reserve for future programs".

⁷ The two dimensional assessment of programs is based on Colby et al. (2003).

⁸ The normalized scale shows the ratios of each program's economic contribution to the total economic contribution of all the programs.

⁹ The application of the AHP technique is outside the scope of this paper. General guides to AHP can be found in Haas et al. (2006) and Al-Harbi (2001). An application of AHP to nonprofits decision making process is described in Malki (2008) and Malki (2010).

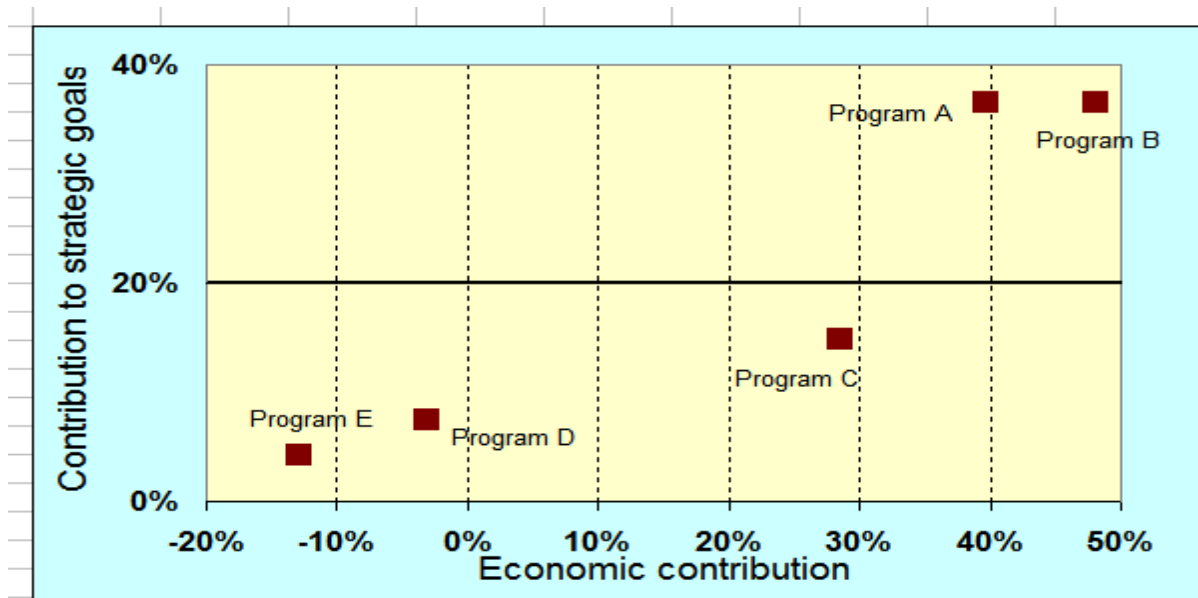


Figure 2. (Normalized scale)

priorities and to take tough decisions. In our example the rehabilitation programs (A and B) are the core programs of the organization and they contribute significantly in both dimensions. Program C is less important from the goals' perspective, but it's a net economic contributor. The focusing diagram shows clearly that the organization's management should reevaluate programs E and D in their current form.

As a result of this analysis the organization's management decided to decrease the budget of program E so that its economic contribution will become zero.

In addition to being an invaluable planning tool, the economic map can also assist the organization's management in other issues:

- It facilitates the decentralization of responsibility on the budgetary goals. Mid-level managers have more control over the variable costs of the programs and thus can be held accountable to controlling them. Decentralization of responsibility is a vital factor in creating budgetary discipline in the organization.
- The economic map creates transparency in the organization and assists in raising internal support for difficult economic steps.
- The economic map provides a clear picture on the trade-offs that the organization faces in case of financial difficulties. In our case study the decision that was taken to decrease the budget of program E increased the organization's planned surplus to ~910,000 NIS (thus contributing significantly to its financial stability), with minimal waiver to its social goals.

Budgeting for Fundraising

The economic map that was presented in the previous section serves the organization optimally for planning and

control. However, when the organization needs to present its budget to funding agencies, showing only the variable (economic) cost of each program is not enough, since the organization has to cover also its fixed costs. Thus, it is imperative to "load" the respective portion of the fixed costs on each program if the organization wants to survive. As was presented already in Table 1, the fixed costs of the organization have two components:

- Direct fixed costs – cost items that can be classified as program costs according to the accepted accounting procedures.
- Indirect fixed costs – cost items which are classified as overhead.

In order to create a unified way for loading fixed costs to programs, I propose to adopt the following criteria:

- Direct fixed costs will be loaded based on cost drivers.
- Indirect fixed cost will be loaded based on the direct apportionment method.

An example of the loading methods of the fixed costs by the two criteria is presented in Figure 3 hereinafter. The direct variable costs of each program are presented in the first line of the table and are identical to the "expenses" line in Figure 1 above. The first layer that is loaded on the variable costs is the direct fixed cost which is allocated by cost drivers. Cost drivers are measurable variables that can logically connect between the programs and the respective cost items¹⁰. In our example the direct fixed cost component comprises of two cost items: (I) rent and municipal taxes (807,797 NIS) and (II) communication (231,993 NIS). The cost drivers that were chosen for

¹⁰ It should be noted that such connection does not imply that there is a functional relationship between the cost item and the respective program, otherwise these cost items would be variable costs

Fixed costs allocation	Program A	Program B	Program C	Program D	Program E	Total
Direct - Variable	3,126,787	3,169,329	691,058	194,273	727,485	7,908,932
Allocation by cost drivers						
Municipal and rent	363,059	363,059	32,272	24,204	24,204	806,797
Cost driver: floor area	45.0%	45.0%	4.0%	3.0%	3.0%	100.0%
Communication	85,674	97,324	19,494	8,247	21,253	231,993
Cost driver: # of staff members	36.9%	42.0%	8.4%	3.6%	9.2%	100.0%
Direct - Fixed	448,733	460,383	51,766	32,451	45,457	1,038,790
Total direct	3,575,520	3,629,712	742,824	226,725	772,941	8,947,722
Direct apportionment						
Loading factor	23.0%	23.0%	23.0%	23.0%	23.0%	
Allocation	40.0%	40.6%	8.3%	2.5%	8.6%	100.0%
Indirect - Fixed (Overhead)	824,058	836,548	171,200	52,254	178,141	2,062,201
Full cost	4,399,578	4,466,260	914,024	278,978	951,083	11,009,923
Overhead rate	18.7%					
Loading factor	23.0%					

Figure 3 (All figures are in NIS)

allocating these cost items are:

- Rent and municipal taxes – allocation by floor area.
- Communication – allocation by the number of staff members.

Obviously the use of different cost drivers means that the allocation will be different for each cost item. Thus for example 45% of the cost of rent and municipal taxes is allocated to program A, but only 36.9% of the cost of communication.

The sum of the direct variable and direct fixed costs is the total direct cost which conforms to the program expenses item in the financial statements. In the next stage the organization has to allocate the indirect fixed cost (overhead) component to each program. The direct apportionment method allocates the overhead according to the relative size of each program's direct budget. This is done by calculating the weight in percentage of each program's direct cost out of the total direct cost. For example we can see that program A's direct cost is 40% of the total direct cost, while program C's direct cost is only 8.3%. In the next stage, the weights of each program are used in order to allocate the overhead to each program.

Although the direct apportionment method seems arbitrary, it has some desirable properties that simplify the allocation of overhead. In order to see these properties we will define two ratios:

- Overhead rate¹¹ - the ratio between the indirect

(overhead) cost and the total cost.

- Loading factor – the ratio between the indirect cost and the direct cost.

Apparently in the direct apportionment method the loading factors of all the programs are equal and can be easily calculated if we know the overall overhead rate of the organization (see a detailed explanation in the appendix). Therefore, application of the direct apportionment method is extremely simple, since we only need to know the overhead rate of the organization.

In our example the overhead rate of the organization is 18.7% (2,062,201 NIS divided by 11,009,923 NIS) and the loading factor is 23% (2,062,201 NIS divided by 8,947,722 NIS). Thus the respective portion of the indirect cost that should be allocated to each program is the direct cost of the program multiplied by 0.23.

The sum of each program's direct cost and its allocated indirect component is the full cost of the program. This is the cost that should be presented to funding agencies as the basis for applications for funding.

How much does a program really cost?

Sometimes the full cost of the program is erroneously referred to as its "True Cost". However the concept of "true cost" stems from misunderstanding how costs actually behave. Note that the full cost of a program always varies when changes happen in the organization in general, although these changes are not related to that specific program. In order to see that let's suppose that our organization initiates a new program. The data are presented in Figure 4 herein.

The only difference between Figure 4 and Figure 3 is the addition of program F. By definition the variable costs of

11 The overhead rate is sometimes defined as the ratio between the indirect cost and the total revenue. The two definitions are identical when the organization runs a balanced budget.

Fixed costs allocation	Program A	Program B	Program C	Program D	Program E	Program F (New)	Total
Direct - Variable	3,126,787	3,169,329	691,058	194,273	727,485	460,000	8,368,932
Allocation by cost drivers							
Municipal and rent	354,991	354,991	30,658	22,590	22,590	20,977	806,797
Cost driver: floor area	44.0%	44.0%	3.8%	2.8%	2.8%	2.6%	100.0%
Communication	81,624	92,723	18,572	7,857	20,248	10,968	231,993
Cost driver: # of staff members	35.2%	40.0%	8.0%	3.4%	8.7%	4.7%	100.0%
Direct - Fixed	436,615	447,714	49,230	30,448	42,838	31,945	1,038,790
Total direct	3,563,401	3,617,043	740,289	224,721	770,323	491,945	9,407,722
Direct apportionment							
Loading factor	21.9%	21.9%	21.9%	21.9%	21.9%	21.9%	
Allocation	37.9%	38.4%	7.9%	2.4%	8.2%	5.2%	100.0%
Indirect - Fixed (Overhead)	781,108	792,867	162,273	49,260	168,857	107,836	2,062,201
Full cost	4,344,510	4,409,909	902,562	273,981	939,180	599,780	11,469,923
Overhead rate	18.0%						
Loading factor	21.9%						

Figure 4. All figures are in NIS

	Direct Cost		Allocation of overhead	Full cost	Loading factor
Program A	₪ 500,000	50%	₪ 125,000	₪ 625,000	25%
Program B	₪ 300,000	30%	₪ 75,000	₪ 375,000	25%
Program C	₪ 200,000	20%	₪ 50,000	₪ 250,000	25%
Total direct cost	₪ 1,000,000	100%			
Overhead	₪ 250,000				
Full cost	₪ 1,250,000			₪ 1,250,000	
Overhead rate	20%				
Loading factor	25%				

Figure 5. All figures are in NIS

the other programs are not affected by the introduction of the new program. However, the full cost of each one of the programs A-E has decreased. The reason is that the fixed costs are now divided between more programs. Thus for example, only 44% of the costs of rent and municipal taxes are allocated to program A, instead of 45% before the introduction of program F. In parallel we can see that both the overhead rate and the loading factor are also reduced to 18% and 21.9% respectively. That reflects the fact that the overhead cost that was apportioned to each program has also decreased.

The example in Figure 4 demonstrates why the term “the true cost of a program” is meaningless. One can wonder how the “true cost” of a program can change when there is absolutely no change in the program itself. In the business world it has been long known that the term “the cost of a product or a service” does not carry much meaning. If an airline would use its estimate for the full cost of a seat in a plane as a benchmark for pricing, it will never sell cheap flight tickets a day before the flight. However it is clear that once the plane took off an empty

seat is a net loss. Thus a day before the flight the relevant cost for pricing a ticket is only the variable cost of an additional passenger.

The same logic applies for nonprofits: there is no such thing as the true cost of a program. There are however two presentations of the program's cost that should be used for different purposes. The economic (variable) cost should be used internally for decision making, while the full cost should be used externally for presentation and fund raising.

Appendix: The direct apportionment method

The simple example, which is presented in Figure 5, demonstrates the desirable properties of the direct apportionment method.

The organization in the example operates three programs with total direct cost of 1 million NIS, and its indirect (overhead) cost is 250,000 NIS. The overhead is allocated to each one of the programs based on the

direct apportionment method. As was previously defined, the loading factor is the ratio between the indirect and the direct cost. We can see that the loading factor of all the programs is constant and equals 25%. The overhead rate is the ratio between the indirect cost and the full cost and equals 20% (250,000 NIS divided by 1,250,000 NIS). The mathematical connection between the overhead rate and the loading factor is presented herein:

$$\text{Loading factor} = \text{Overhead rate} / (1 - \text{Overhead rate})$$

$$0.25 = 0.2 / (1 - 0.2)$$

Thus for the direct apportionment method it is only necessary to know the overhead rate of the organization, by which we can calculate the loading factor. Then the loading factor can be used to apportion the overhead to each program.

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