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Abstract

In the absence of clear and acceptable measures for outcomes, the budget is probably the most important managerial tool for nonprofits. Nevertheless many nonprofits operate without a budget at all, or with a limited version of a budget that is used solely for fundraising with no managerial role. The purpose of this paper is to present guidelines for the preparation of budgets that can serve all the aspects of the organization's activity. More specifically the budget should provide the organization's management with tools for decision making, risk management, measuring efficiency and the ability to present a cleat picture of the organization's activities to internal and external stakeholders. The adoption of these guidelines may benefit both nonprofits and their donors. Nonprofits will be able to improve the way they manage their programs while donors will be able to get a clearer picture of the organization and to simplify their procedures for grant applications.

A. Introduction

The organizational budget is the main tool for allocating and managing resources in both nonprofit and for profit enterprises. The budget is a financial expression of the organization's action plan and reflects the connection between the organization's activities and its resources. In the context of nonprofits the budget is a tool to achieve the following goals:

- To present a clear picture of the organization's resource allocation and the economic relationship between the different activities that the organization performs.
- To provide reliable tools for decision making on the organization's activities, especially in the context of initiating new programs or discontinuing existing ones.
- To enable the effective control over the organization's financial situation and to provide early warning signals for possible risks to the organization's activities.
- To create a clear presentation of the full cost of the organization's activities and to serve as a tool for fundraising.
- To provide reliable tools to measure the organization's level of efficiency and to control its improvement.

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. On the other hand donors, foundations and government agencies (hereinafter "funding agencies") rely on the budgets that they receive for their decision making process, without fully understanding their implication. Moreover, each funding agency develops its own unique format for budgetary presentation, without taking into consideration the organization's ability to provide reliable budgetary figures.

Thus many nonprofits manage their programs without a proper knowledge of their cost structure, but continue to submit to their funding agencies "budgets" merely to comply with their demands.

This situation is sometimes referred to as the "**Dance of Deception**"[1]**.**

The purpose of this paper is to provide guidelines for preparing budgets for nonprofits, so that the budget can serve simultaneously both the organization's management and external stakeholders. I believe that adopting these guidelines will benefit both sides: nonprofits will be able to improve the way they manage their programs while donors will be able to get a clearer picture of the organization and to simplify their procedures for grant applications.

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1 William Foster presents the term the Dance of Deception in a slightly different context in his article "*Money to grow On*" (Stanford Social Innovation Review Fall 2008).

B. Preparation of the organizational budget

The process of preparing the organizational budget assists the organization's management to focus on the question: "Are we doing things right?" (a prior question which is essential to the strategic planning process is: "Are we doing the right things?"). Preparing an annual budget serves as an opportunity for the organization's management to review the following issues:

- The criteria for budgetary allocation and their connection to the organization's goals[2].
- Alternative ways to achieve the organization's goal.
- The contribution of each program to the organization's goals.
- The implications of continuing or discontinuing each one of the programs.

In the process of preparing the annual budget the organization's management has to perform several projections regarding the organization's activities and the resources that will be available in the coming year. The following questions should be answered in the process:

- What are the expected sources of income, and what is the expected income from each source?
- Are the needs that the organization serves expected to change and in what way?
- What are the expected changes in the quantities of the resources (additional staffing, new premises etc.)?
- What are the expected changes in the prices of the resources (inflation, cost of labor etc.)?
- What are the expected needs in terms of equipment (computers, furniture etc.)?
- Are we planning any capital investment (renovations, construction etc.)?

The preparation of the organizational budget usually starts with income projection for the next year. The purpose of the income projection is to assess the level and composition of the resources that will be available for the organization and to prepare its fundraising plan. The income projection is basically a table that presents the various income sources and their designated activity. The table should also include the level of confidence that is attributed to each income source. The following criteria can be used for determining such level of confidence:

- Very high level o confidence – income sources which are secured by contracts or by commitments with very high reliability.
- High level of confidence – income sources which can be relied upon, based on past experience or the reputation of the funding agency.
- Medium and low level of confidence - income sources with significant level of uncertainty.

The decision on which of the sources should be included in the budget is very significant since it determines the level of the risk that the organization is willing to take.

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2 A description of such process appears in my book: *"Measuring the things that count: Quantitative methods for the management of nonprofits"*, (LAP 2010) in chapters II & IV.

As such, it is recommended that this decision will be approved by the organization's board of directors.

The next stage is the preparation of a detailed organizational budget. In order for the budget to serve as a tool for decision making, it should be structured according to the principles of modern managerial accounting methods:

- Activity Based Costing (ABC)[3]
- Throughput Accounting[4]

According to ABC the organizational budget and managerial accounting system should reflect the organization's activities. Traditional cost accounting 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 allocating costs to activities so that the budget will provide a clear economic picture of the organization. For this purpose the allocation of costs to activities has to follow an economic criteria instead of the accounting convention. The economic definition of the cost of an activity is based on the following criteria:

- **New activity: the incremental (variable) cost that will be added to the organization as a result of the inception of the activity.**
- **Existing activity: the variable[5] cost that would be saved if the activity is discontinued.**

When this process of classifying costs to activities is completed, all the remaining cost items that are not part of the economic cost of any activity, 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 the accounting convention that classifies cost according to program (direct) costs and administrative (indirect) costs - also referred to as "overhead". Unlike the economic classification, the criteria for classifying cost items as program cost or overhead is not objective and is based on conventions. Moreover, organizations try to stretch the definition of program cost to the maximum due to the fact that high overhead is associated with lack of efficiency (see section I hereinafter). Thus, the fixed component of the organization's costs is usually higher than the indirect part.

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

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3 For a full exposition of ABC see: Robert .S. Kaplan and Robin Cooper - *Cost & Effect* (1998).
4 Throughput Accounting is described in: Eliyahu Goldratt's books – *The Goal* (1988); *The Haystack Syndrome* (1991).
5 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 costs that vary with the inclusion or exclusion of activities.

Table 1: Classification of Costs

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

To complete the organizational budget we have to a classify income to the various 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.

C. The economic map[6]
The principles that were described in section B enable the organization to prepare an economic map of its 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 explained before the cost items that were classified to each activity would have been saved if it was discontinued. As a result of using this criteria the difference between the budgeted income of the activity and its budgeted expenses represent its "**economic contribution**" to the organization. The economic contribution presents 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) of the organization, 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. In most cases the general activity of the organization will have a negative economic contribution. The total economic contributions of all the programs has to be at least as large as the negative economic contribution of the general activity. Thus, if some of the programs are subsidized – e.g. their economic contribution is negative – the positive economic contributions have to cover this deficit as well. The economic map enables the organization's management to see these programs explicitly and to decide whether their contribution to the goals of the organizations justifies their subsidy.

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6 The concept of the economic map is also presented in my book: *"Measuring the things that count: Quantitative methods for the management of nonprofits"* (LAP 2010) in chapter V.

In table 2 herein I present an example of the the economic map of an Israeli welfare organization.

Table 2:

(All figures are in NIS)

Economic Map - Version I	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**

The organization operates five programs, three of them (A, B, and C) are subsidizing programs. The total economic contribution of the subsidizing programs has to cover the deficit from the general activity (-1,761,398 NIS), the planned surplus (604,392 NIS) and the deficit of programs D and E which have a negative economic contribution. Thus, the economic map puts a price tag on the subsidized programs by presenting the cost of the subsidy explicitly.

It is clear now why the economic map is an essential planning tool for the organization. Each program can be measured in two dimensions: its contribution to achieving the organization's goal and its economic contribution[7]. The result is a "**focusing matrix**" that is presented in Diagram 1 hereinafter. The horizontal axis of the focusing matrix is the economic contribution of each program in a normalized scale[8]. 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 can be done by Analytic Hierarchy Process (AHP)[9].

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7 The two dimensional assessment of programs is based on: *"Costs are Cool: The Strategic Value of Economic Clarity",* Susan Colby & Abigail Rubin, The Bridgespan Group, 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 AHP to nonprofits decision making is described in my book: *"Measuring the things that count: Quantitative methods for the management of nonprofits"*, (LAP 2010) in chapters IV.

Diagram 1:
(Normalized scale)
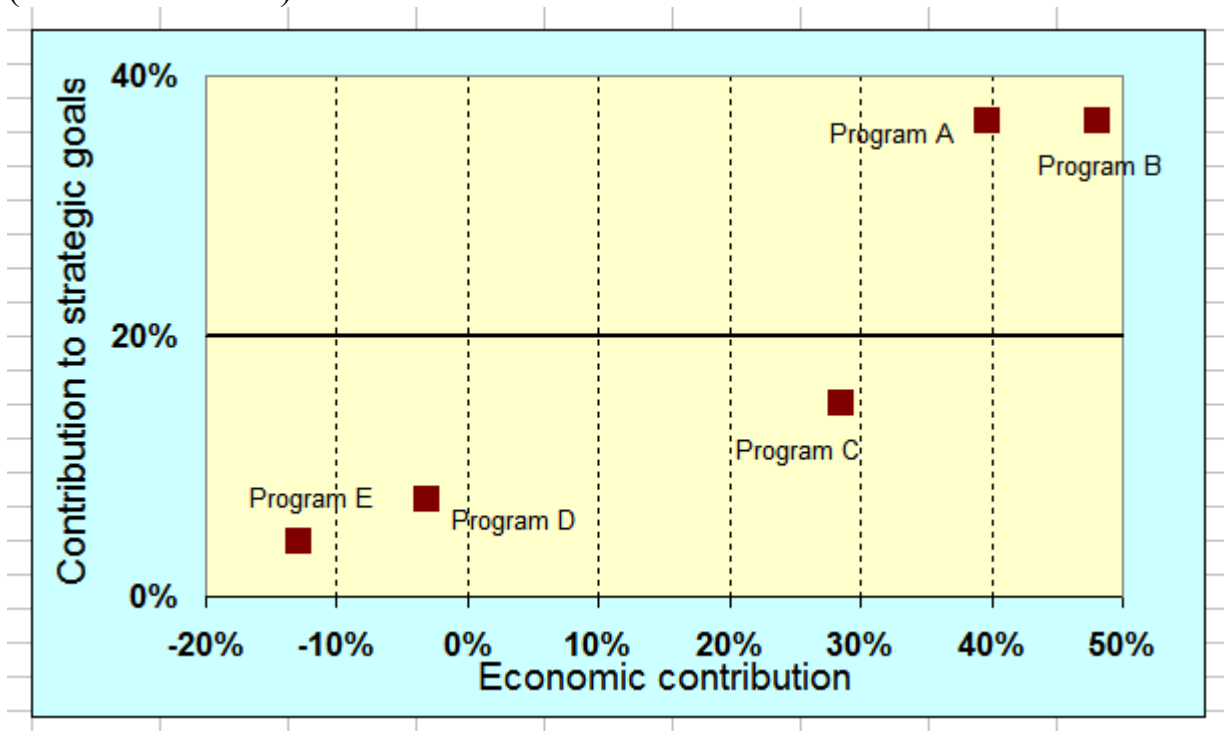
The focusing matrix in diagram 1 is a powerful planning tool. It enables the organization's management to review priorities and to take tough decisions. In our example programs A and B are the core programs of the organization and they contribute significantly in both dimensions. Program C is less important from the goals perspective, but its a net economic contributor. The focusing matrix shows clearly that the organization's management has to consider the continuation of programs E and D in their current manner.

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 cost items that are apportioned to each activity 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 ability of the organization to absorb financial shocks. In this particular example the subsidized programs are relatively small and can be discontinued in case of a financial difficulty. In this case the organization will save around 380,000 NIS.

D. Budgeting new programs

So far I have focused on the organizational budget which usually reflects the existing activities of the organization. However, the inception of new programs requires a budget that cannot always be built upon the existing cost structure. The budget for a new program has to answer to the following question: "Given the goals of the program what is the optimal allocation of resources that is required to achieve these goals?"

The budget should be derived from the general planning process that is described in Table 3.

Table 3:

Goals
Outcomes
Outputs
Resources (physical units)
Budget

Although defining the program's outcomes is essential for the planning process, measuring the outcomes can prove to be very illusive. It is usually much more feasible to measure the outputs of the program, e.g. the number of beneficiaries, the number of services etc. Thus, in practice the budget is usually an answer to the question: "what is the optimal resource allocation that is required in order to achieve the required outputs in the required quality?"

The transition from outputs to resource allocation and budget is done by asking the following questions:

- Do we need more staff in order to achieve the required outputs? If so, how many positions and what is the cost of each position?
- Do we need more space and if so how much and in what cost?
- Do we need the services of external suppliers and in what volume?
- Do we need more vehicles/transportation services and in what volume?
- Do we need to purchase disposable materials and in what volume?
- Do we need any additional equipment and if so what type and what is the cost involved?
- Is the new program going to affect other cost items in the organization, such as maintenance, communication etc.?

The purpose of this process is to make sure that budgeting of the new program is done in the most efficient manner. Thus the organization has to verify that every increase in resources is justified and that there is no alternative way to achieve the same results with the existing resources. Using such process will ensure that the eventual budget reflects the economic cost of the program – e.g. the incremental cost to the organization as a result of the new program.

E. Budgeting in organizations with several branches

Organizations that operate in several geographical locations should reflect the allocation of the costs between the branches in their budget. There are several possible variations of the activities in the branches, and each one of them has a different implication on the way the budget is constructed:

1) The branch is also a separate activity

When the activity in the branch is unique and is performed only there, the branch should be considered as a separate activity. In such case all the costs of the branch should be considered as the variable costs of this activity.

2) Branches that serve a few activities

In some cases the organization operates in a central location, but a few of its programs are performed also in branches. If the discontinuation of these specific programs will result in closing the branches, then all the costs of these branches are part of the variable costs of these programs.

3) Branches that serve the entire organization

The more common situation is an organization that operates identical programs in several branches, and the central location serves as headquarters. In such case the operating costs of the branches (rent, maintenance, management etc.) are not dependent on any specific activity and should be classified as fixed costs of the organization.

Thus it is clear from the aforementioned analysis that the budgetary treatment of branches should reflect their functional relationship with the activities of the organization.

F. Budgetary control

In the daily operation of the organization, the main use of the budget is for financial control – e.g. the comparison between actual data on income and expenses to their respective budgets. Effective financial control requires that the **budgetary system** (e.g. the computerized system that is used to manage the budget) will be linked to the organization's accounting system. The reason for this is that the accounting system has a built-in mechanism to verify the integrity of the financial data. Thus, the first step in planning a budgetary system is to rearrange the chart of accounts according to the structure of the budget. The level of details that the organization has in its chart of accounts determines the level of accuracy of its budgetary reports. Obviously a cost-

benefit consideration is required here since too many details may have little significance in the budgetary reports, but will increase the workload to the accounting department significantly. The following are several examples for the way the chart of accounts should be organized:

- The income and expenses accounts should be classified according to activities. Thus, instead of one accounts for income from donations it is preferable to have several accounts according to the activities for which the donations are designated. In the same way salary expenses should also be classified according to activities. In this particular case it is usually easier to have the classification built into the salary software directly.
- If the organization has several branches, the costs of rent, maintenance etc. should be allocated to separate accounts for each branch.

In addition to the adjustment of the chart of accounts it is imperative to plan the budgetary system so that it can serve the organization in the optimal manner. The following are the main points for consideration:

- The budgetary system should be able to present the budget in several profiles. The most common profiles are: activities, branches, costs classification (fixed-variable, direct-indirect) and type (income from donors, income from government, salaries, rent etc.)
- Nonprofits' budgets are dynamic and may change many times during the year. A good budgetary system should facilitate the updating of the budget at least once a month. The following are examples that require updates of the budget: additional funding, new projects, cancellation of planned grants, changes in staff etc.
- The budgetary system should be able to produce both detailed reports and concentrated (snapshot) reports. The snapshot reports should provide the most essential information that deserves managerial attention.
- Effective budgetary control requires decentralization of responsibility. Thus, the budgetary system should be able to produce periodical reports to the relevant staff in the organization.

Table 4 hereinafter presents a snapshot budgetary report for the same organization that was presented in Table 2 above:

Table 4:

(All figures are in NIS)

Budgetray report			
Date	31/07/2009		
Standard utilization	**58.3%**		
	Budget	**Actual**	**Utilization**
Program A			
Income	4,064,403	2,307,232	56.8%
Expenses	-3,126,787	-1,732,127	55.4%
Economic Contribution	937,617	575,105	61.3%
Program B			
Income	4,305,820	2,377,135	55.2%
Expenses	-3,169,329	-1,873,137	59.1%
Economic Contribution	1,136,492	503,998	44.3%
Program C			
Income	1,363,460	1,074,005	78.8%
Expenses	-691,058	-398,373	57.6%
Economic Contribution	672,402	675,632	100.5%
Program D			
Income	119,247	77,900	65.3%
Expenses	-194,273	-91,483	47.1%
Economic Contribution	-75,026	-13,583	18.1%
Program E			
Income	421,791	186,410	44.2%
Expenses	-727,485	-399,314	54.9%
Economic Contribution	-305,693	-212,904	69.6%
Fixed Costs			
Income	1,339,592	523,039	39.0%
Expenses	-3,100,991	-1,876,104	60.5%
Economic Contribution	-1,761,398	-1,353,065	76.8%
Total			
Income	**11,614,315**	**6,545,721**	**56.4%**
Expenses	**-11,009,923**	**-6,370,538**	**57.9%**
Economic Contribution	**604,392**	**175,183**	**29.0%**

The table is organized by the activities of the organization, and for each activity the total income, total expenses and the economic contribution are presented. For each item the table presents the budget, the cumulative expenses[10] and the utilization rate (cumulative expenses divided by the budget). The utilization rate can be compared to the "**standard utilization**" which is the current month divided by 12.

In our example the report relates to the period January 1st 2009 to July 31st 2009 and thus the standard utilization is:

$$7 / 12 = 58.3\%$$

The comparison between the utilization rate and the standard utilization serves as a "red light" to the organization. Although not all cost items grow linearly over time, the standard utilization is still a useful metric to look for potential risks. These

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10 The cumulative expenses are all the expenses from January 1st until the date of the report. The data are usually taken from the organization's trial balance.

potential risks emanate from two sources:

- Budgetary risk – the budgetary assumptions are not valid. Low utilization rate in the income side may reflect over-optimistic assumptions about future income. In parallel, high utilization rate in the expenses side may point to the fact that the cost of the respective activity is higher than we thought. In both cases an unexpected deficit will evolve.
- Cash flow risk – even if the budgetary assumptions are still valid, the organization may encounter a cash flow problem. Cash flow risk is presented in more details in the next section.

G. Budget versus cash flow

The cash flow risk relates to the timing of the income and the expenses. When there is a significant gap in such timing – e.g. expenses occur before the actual income is received – the organization may encounter a cash flow problem. It is important to distinguish between budgetary risk – e.g. expected income is lower than expected expenses – and cash flow risk which emanates from timing and thus can be resolved by an appropriate amount of working capital. Obviously the budgetary risk is much more severe since the solution may involve a reduction in the scope of the programs. The customary method to deal with cash flow risk is to prepare a separate table that tries to forecast the organization's cash inflows and outflows. However, practical experience shows that such cash flow projections are very sensitive to initial assumptions and their periodical maintenance requires a significant amount of time. The budgetary report which was presented in Table 4 provides a more elegant method to detect cash flow risk[11]. The analysis is presented in Table 5 hereinafter, which presents a different profile of the same organization.

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11 The use of budgetary reports to detect cash flow risk requires that the budget will include capital expenses (equipment, computers, renovations etc.) and debt repayment, in addition to programs income and expenses.

Table 5:

(All figures are in NIS)

Budgetray report				
Date	31/07/2009			
Standard utilization	58.3%			
	Budget	**Actual**	**Utilization**	**Surplus / Deficit**
Income				
Program A	4,064,403	2,307,232	56.8%	-63,670
Program B	4,305,820	2,377,135	55.2%	-134,594
Program C	1,363,460	1,074,005	78.8%	278,653
Program D	119,247	77,900	65.3%	8,339
Program E	421,791	186,410	44.2%	-59,635
General	1,339,592	523,039	39.0%	-258,390
Total income	**11,614,315**	**6,545,721**	**56.4%**	**-229,296**
Expenses				
Program A	-3,126,787	-1,732,127	55.4%	91,832
Program B	-3,169,329	-1,873,137	59.1%	-24,362
Program C	-691,058	-398,373	57.6%	4,744
Program D	-194,273	-91,483	47.1%	21,843
Program E	-727,485	-399,314	54.9%	25,052
Fixed costs	-3,100,991	-1,876,104	60.5%	-67,193
Total expense	**-11,009,923**	**-6,370,538**	**57.9%**	**51,917**
Surplus / Deficit	**604,392**	**175,183**	**29.0%**	**-177,379**

In spite of the fact that the organization has a surplus of 175,183 NIS at the of July 2009, the report implies that a cash flow problem may arise in the near future. To see why we have to examine the difference between the utilization rates of the income and the expenses. The utilization rate of the income is 56.4%, while the respective utilization rate of the expenses is 57.9%. In an ideal situation cash inflows and outflows should grow in an identical rate over time. Thus by 31/7/09 the utilization rate of both income and expenses should be 58.3% (7/12) in order for the cash flow to be balanced. In our example the utilization rates of both income and expenses lag behind the standard utilization, but the lag in the income side is higher. The implication of this difference in the utilization rates is presented in the column Surplus/Deficit which shows an overall deficit of -229,296 NIS in the income side and an overall surplus of 51,917 NIS in the expenses side. The calculation of the deficit in the income side is done in the following manner:

$$\text{Planned Income} = \text{Standard Utilization} * \text{Budget}$$

$$6,775,017 = 0.583 * 11,614,315$$

$$\text{Surplus/Deficit} = \text{Actual Income} - \text{Planned Income}$$

$$-229,296 = 6,545,721 - 6,775,017$$

The calculation of the surplus in the expenses side is done in the same manner, and the bottom line is a total deficit of -177,379 NIS.

When the budgetary report shows a deficit the organization must first review the validity of its budgetary assumptions. If the conclusion is that the budgetary assumptions are too optimistic the budget has to be revised accordingly. **However, if the budgetary assumptions are still valid the deficit implies to a cash flow risk.**

An examination of Table 5 suggests that the main problem is the lag in receiving the income of program B and the general activity. Thus, the report also points to the steps that are needed in order to address the cash flow risk. In our example the organization should increase the efforts to collect the due funds for program B and the general activity.

H. Preparation of budgets for fundraising

The budgetary format that was presented in the previous sections serves the organization optimally for planning and control. However, when the organization needs to present its budget to funding agencies, showing 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 in order to present its full budget. As was presented already in Table 1 above the fixed costs of the organization have two components:

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

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

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

An example of the allocation of fixed costs by the two criteria is presented in Table 6 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 Table 2 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 reflect the economic connection between the program and the respective cost item. In our example the direct fixed cost component comprises two cost items: (I) rent and municipal taxes (807,797 NIS) and (II) communication (231,993 NIS). The cost drivers that were chosen for 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.

Table 6:

(All figures are in NIS)

Overhead allocation - Version I	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	11,025,304
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%					

The sum of the direct variable and direct fixed costs is the total direct costs 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 budget out of the total budget. For example we can see that program A's budget is 40% of the total direct cost, while program C's budget 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 is a bit arbitrary, it has some desirable properties that simplify the allocation of overhead. In order to see these properties we will define two ratios:

- **Overhead rate** [12] - 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 the 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

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12 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.

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 funding.

Unlike the variable cost, the full cost of each program is not independent and varies with general changes in the organization. In order to see that let's suppose that our organization starts a new program. The data are presented in table 7 herein.

Table 7:
(All figures are in NIS)

Overhead allocation - Version II	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**	**11,485,304**
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%						

The only difference between Table 7 and Table 6 is the addition of program F. By definition the variable costs of the other programs are not affected by the introduction of the new program. However, the full cost of each one of the program A-E is reduced. The reason for that is that the fixed costs are now divided between more programs. Thus for example, only 44% of the cost 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.

There is an important insight in the example of Table 7:

Changes in the full cost of a program are not necessarily the result of the program itself, but may reflect an increase or a decrease in the efficiency of the organization in general.

I. Measuring efficiency

One of the main concerns for funding agencies is whether resources are used in the optimal manner. An optimal utilization of resources means that the organization's goals are achieved in the lowest possible cost. In such case the organization is economically efficient. Efficient organizations can achieve more by using less resources. Thus efficiency is a significant factor in the performance of any nonprofit. However, in spite of its importance the efficiency of nonprofits is not properly measured. The common measure for efficiency is the overhead rate that was presented in the previous section. Unfortunately the overhead rate is not a good measure for efficiency, and sometimes even points to the wrong direction. Nonprofits invest considerable effort to increase the direct cost component and to decrease the indirect component using all kinds of "accounting maneuvering". However, neutral changes – e.g. decreasing the direct cost while increasing respectively the indirect cost – that have no impact on the outcomes or outputs of the programs do not change the organization's efficiency. Moreover, suppose that an organization succeeds in decreasing its direct costs without changing its outcomes and outputs. Such organization undoubtedly became more efficient, however if its indirect cost remains unchanged its overhead rate will increase.

These examples demonstrate why the overhead rate is not a good measure for efficiency and clarify the need for an alternative measure. The best measure for the efficiency of a certain program is its "**cost per unit of outcome**" (hereinafter: cost per outcome)[13]. However in many cases measuring outcomes is a mission impossible, and even if it is possible outcomes are hardly comparable between organizations. As a result a more practical alternative is to measure the "**cost per unit of output**" (hereinafter: cost per output). Although Measuring output is sometimes difficult it is feasible for most organizations, and given its importance for efficiency measurement it should be pursued rigorously. In Tables 8 hereinafter I present an example of the use of the cost per output to measure efficiency.

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13 A full exposition of the cost per outcome appears in: "More Bang for the Buck", Alex Neuhoff and Robert Searle, Stanford Social Innovation Review, Spring 2008.

Table 8:
(All figures are in NIS)

Efficiency neasures - Version I	Program A	Program B	Program C	Program D	Program E
Full cost	4,399,578	4,466,260	914,024	278,978	951,083
# of units (recipients, services etc.)	36	36	850	89	125
Cost per output	122,210	124,063	1,075	3,135	7,609
Increase in the # of units	36	39	850	89	125
Cost per output	122,210	114,519	1,075	3,135	7,609
Overhead rate	18.7%				

The basis for the calculation of the cost per output is the full cost of each program which is taken from the last line in Table 6. In this example the outputs of the programs are defined as the number of beneficiaries in each program. The ratio between the full cost of the program and its number of beneficiaries is the cost per output for this program (in annual terms). The cost per output can be used to measure efficiency in two manners:

- Benchmarking the cost per output in relation to other organizations that operate similar programs. Such benchmarking can be an effective measure to the program's efficiency, providing that the comparison is carefully constructed[14]. First, it is imperative that the benchmarking is done on comparable programs. Second, the outputs should be defined identically in all the programs that are compared. Third, the allocation method of the fixed costs should be the same in the compared organizations. Funding agencies that are focused on a certain field, and provide funding to several organizations, can create a database of cost per output for the programs in their filed of interest. The data can then be used to determine benchmarks for the respective field and thus to define the required level of efficiency.
- Even if comparison between organizations is not feasible, each organization can measure its cost per output over time and thus to determine whether it became more or less efficient. The following examples provide more insight to such internal efficiency control.

The first demonstration of increasing efficiency is by adding more beneficiaries without increasing the respective cost. In the example in Table 8 the the number of beneficiaries in program B rose from 36 to 39, but the cost of the program remained unchanged. As a result the cost per output decreased from 124,063 NIS to 114,519 NIS.

How is it possible to serve more beneficiaries without increasing the program's costs? Apparently the cost structure of many organizations is fixed for a certain range of outputs. For example the quality of teaching in a seminar for an MA program does not change if the number of students in class increases from 20 to 22. On the other

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14 An example to such analysis appears in my book: "Measuring the Things that Count" (2010 LAP) in chapter III.

hand if the number of students goes up to 40, the quality of teaching will be affected and the university will have to hire another lecturer.

When the organization is able to increase the number of beneficiaries without a respective increase in the cost of the programs it has "**idle capacity**". In such case increasing efficiency means better utilization of the organization's capacity, which is captured by the decrease in the cost per output. An important insight is that when such increase in efficiency occurs the overhead rate does not change.

An increase in efficiency due to additional beneficiaries can occur even if the variable costs increase too. Suppose that the number of beneficiaries rose by 10% and the variable costs also rose respectively by 10%. If the fixed costs have not changed the full cost of the program will rise by less than 10% and thus the cost per output will decrease.

Another demonstration of increased efficiency is presented in Table 9 hereinafter.

Table 9:

(All figures are in NIS)

Efficiency neasures - Version II	Program A	Program B	Program C	Program D	Program E	Program F (New)
Full cost	4,344,510	4,409,909	902,562	273,981	939,180	599,780
# of units (recipients, services etc.)	36	36	850	89	125	78
Cost per output	120,681	122,497	1,062	3,078	7,513	7,689
Overhead rate	18.0%					

Table 9 is based on Table 7 and shows how the cost structure changes when a new program is added (program F). As a result of the addition of the new program the costs per output of programs A-E decrease. The reason for this is that the fixed costs of the organization has to be loaded on more programs and more beneficiaries. In this example the increase in efficiency is also accompanied by a decrease in the overhead rate from 18.7% to 18%.

The conclusion from these examples is that increasing efficiency is not necessarily the result of cost reduction. As a matter of fact we should expect that organizations that grow and expand their activities will become more efficient as their costs per outputs are reduced[15].

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15 This approach to efficiency is also presented in: "Achieving Breakthrough Performance", Mark Gottfredson, Steve Schaubert, & Elisabeth Babcock, Stanford Social Innovation Review, Summer 2008.

J. Summary and conclusions

Preparing an organizational budget is not a goal by itself, but rather a managerial tool that should improve management's ability to achieve the organization's goals. The guidelines that are presented in this paper are focused on making the budget a useful tool for improving nonprofits' performance. The economic map and the respective focusing matrix are essential decision supporting tools for strategic planning and the determination of priorities. The organizational budgetary and cash flow reports are imperative for effective risk management. The allocation of fixed costs to the programs in order to determine their full cost is essential for fundraising and for presentation to external stakeholders. The full cost of the programs is also an essential component in determining their efficiency, which can be measured either by the cost per outcomes or by the cost per outputs.

These are the four goals that should be addressed by the organizational budget, and a properly built budgetary system should provide the organization's management with the ability to achieve these goals simultaneously.

Appendix: Properties of the direct apportionment method

The simple example, which is presented in table 10, demonstrates the desirable properties of the direct apportionment method.

Table 10:

(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%				

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. According to the definitions in section H above the **loading factor** is the ratio between the indirect cost 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 the programs.

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