



## **Value measurement on the non-profit organizations (NPO) action**

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## **Track Brasil: SUSTENTABILIDADE E CULTURA ORGANIZACIONAL**

### **Value measurement on the non-profit organizations (NPO) action**

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#### **1. Introduction**

The interest on the issue of procedures for measurement of tangible and intangible results assumes that the administration of measurements-based performance provides a better organizational control. Remembers Neely (1998) the naive position of those who associate performance measurement to greater control. People who will be measured will administer those measurements and not their performance, reporting events in a selective manner; data will be manipulated and presented in more favorable ways in an attempt to mislead the measurement system. These difficulties, however, do not belong only to the world of for-profit companies or governments. The important aspect lies in knowing the importance degree of these disorders.

#### **2. Research problem and objectives**

How does an NPO contribute to value creation? The work investigates the applicability of measurement tools and creation of value in a NPO and demonstrates that the conventional tools for measuring the performance of volunteer labor and mission do not fully capture the results.

#### **3. Literature review**

##### **3.1. Performance**

Performance is an objective phenomenon, represented by a set of attributes of a program and its impact on society (KAPLAN, 2001; PROVOST and LEDDICK, 1993). The performance captured by any set of measures will always be a partial and contextual view, reflecting the fact that measures have been defined, analyzed and interpreted by organizations and individuals involved in the process and at some point the organization. The characteristic features of the NPO are scarce resources (people and money), the activities that cover all the steps that people involved in the

development and delivery of social programs perform and the products or results are the services or goods available to the target audience which identify how much work was done or how many units of service were offered but provides no information on the efficiency or quality of the work performed. One must, therefore, associate efficiency measures that relate the amount of work performed with the amount of resources used. Now, as to quality, the impacts are defined, i.e., the effects and changes in the society served by the NPO action. Thus, the key challenge of measuring performance of a sector is identified: the gap between what is measurable and what is relevant. Therefore, in the action of the NPO, explanatory measures are those with impact and efficiency.

### **3.2. The market value for volunteer activities**

Many NPO rely on volunteers as a share of the workforce, although they do not appear in the accounting reports. There are two schools for this assessment: one based on opportunity cost, where one can assume that the cost of volunteering is the time that could have been spent in other ways, including being paid in other activities (Brown 1999). Variations to that procedure are undertaken by Wolfe *et al.* (1993), when estimating the marginal cost of opportunity, by asking the volunteers about what they would have received had they worked these additional hours paid. Another method is the “replacement cost” (or substitution) to assess the cost of volunteers as if they had to pay market prices for such service.

### **3.3. Assessment models**

#### **3.3.1. The Demonstration of Expanded Value Added (DVAE) and the calculation of the value added**

According to Quarter, Mook, and Richmond (2003), who developed the DVAE, the first step of the value added calculation lies in knowing the financial and social results achieved with the use of financial and non financial resources in the pursuit of fulfilling its mission by making use of volunteer labor.

Table 01 presents the DVAE. The three columns, Financial, Social and Combined refer to different sources of value added: Financial column - is derived from the audited data, which can be found in Table 01. This item is comprised by data from

**Table 01 – Demonstration of Expanded Value Added (DVAE)**

Name		Financial	Social	Combined
Results	Primary			
	Secondary			
	Tertiary			
Total internal production				
(-) Goods and services acquired externally (A)				
<b>Total Added Value (B)</b>				
Added Value Rate regarding the External Purchases (B / (A))				
Employees	Salaries and duties			
	Training			
Government	Taxes			
Investors	Interests			
Society	Voluntaries contributions			
Secondary Beneficiaries				
Tertiary Beneficiaries				
Organization	Depreciation			
<b>Total Added Value Distributed</b>				

**Source:** adapted from MOOK, L., 2004, <http://home.oise.utoronto.ca/~volunteer/>, 06/01/2008.

the NPO Income Statement referring to the total primary payments for the year, considering payments for labor, purchases and payments to third parties, plus secondary payments, in the case of volunteer work in the NPO, like disbursements regarding training, education and maintenance; the Social column - displays information that relies on market data to estimate its value. In the case of voluntary labor earnings are considered primary (hours of volunteer's work calculated but not paid), together with expenses not refunded and any costs incurred by the NPO and not allocated to the volunteers, added to secondary gains (value of learning and personal growth = value not disbursed by the society to build knowledge) and tertiary impacts when qualified volunteers now provide pro bono services to third parties. When analyzing the impact or

value of the mission, there will be a value generated by the program containing possible primary, secondary and tertiary effects to be added to the value generated by volunteering; the Combined column is composed by: the sum of the two previous columns, totaling the Expanded Value Added, which is the result of the difference between spending on external purchases and the total of primary, secondary and tertiary results. The total value added, thus generated, is to be divided into three lines:

1) Primary - expenses that produce cash outflows as per the Income Statement, adding the value of social work donated by volunteers, not paid financially, and the estimated value of the impact of the mission, 2) Secondary - made up of values that represent the skills, qualifications and skills developed in voluntary action, creating value for their personal growth and a value to society, which was not disbursed to the increase of knowledge; 3) Tertiary - when NPO, through its volunteers or its staff, transfer part or all of the knowledge *pro bono* to third parties, generating value.

An index comprising the impacts of volunteering and those achieved in the pursuit of the NPO's mission must relate the value added with external purchases, showing how the organization generates value for each dollar of goods and services purchased externally or how much value it generates for each real invested in it. Table 01 also shows how the Expanded Value Added is fully distributed to stakeholders, based on their contributions to the viability of NPO. Thus, the DVAE goes beyond a rearrangement of the financial statements, presenting information relevant to decision making and better understanding of the characteristics of the operation and dynamics of the NPO, providing recognition and appreciation of different players.

### **3.3.2. The approach based on the Social Return on Investment (SROI)**

A second form of evaluation proposed uses, in part, the one formulated by Hunnemann and Richmond (1996) that builds on the concept of Social Return on Investment (SROI) from the perspective of the value of proceeds derived from changes. The SROI is one form of social audit for nonprofit organizations developed in the 1990s by the American Foundation Roberts Enterprise Development Fund (REDF).

The original formula developed by Richmond and Hunnemann (1996), consists of: (a) success rate = 
$$\frac{\text{number of successes}}{\text{number of services provided}}$$

where: success rate = actual impact of the NPO services, herein expressed in number of

successes regarding the total services provided.

In case each success represents a savings in government programs, it is possible to calculate an index and this index shows how much each unit of investment produces social and economic return for every real spent, i.e.,

(b) Gross ROI (\$) - *output*

$$\begin{array}{l} \text{value of programs} \\ \text{(based on the savings created)} \end{array} = \begin{array}{l} \text{number of} \\ \text{successes} \end{array} \times \begin{array}{l} \text{value of successes} \\ \text{(savings in official programs)} \end{array}$$

This article breaks new ground by suggesting an adjustment in the application of that model of SROI: abandon the use of the value of official programs in calculating the value of output and the successes and adopt the value of the contribution of volunteering in the success of the NPO mission and add the mission success value, calculated by using proxies. This solution reduces the effects of errors imported with the adoption of external standards that bear little relation to the reality of the NPO. Even if the use of proxies can cause distortions, they are always closer to the organization and may be adjusted and revised as you gain awareness of explanatory power and usefulness of the tool, and the observation of its impacts. The output will be: (c) *output* = value generated by the GRAACC mission + value of the volunteers contribution to the success of the mission + value of volunteer labor growth + value of the volunteer labor satisfaction. Then, the financial costs incurred and the social ones not explained by the NPO are calculated, identified in DVAE and herein classified as input, according to item d) below. The ratio of these measures, item e), will result in return for every real invested, or the productivity level of resources applied, and may be made regionally or by sectors: (d) *input* = revenues spent with productive resources (line Total Internal Production, Financial column, table 03) + value of volunteer work (part of line Primary, Social column of the DVAE, table 03);

(e) new SROI rate =  $\frac{(\$) \textit{output}}{(\$) \textit{input}}$  = how much each \$ 1 of investment produces of return for each \$1 spent.

This return value represents the viewpoint of the entities and their tables, being their validation required by the customers benefited by from the services and admit that level of satisfaction to the value created. Whenever the SROI ratio <1 means that every dollar invested produced a result less than the expenses incurred, this result should be validated through research on the quality of the proxies used for explanatory understanding the contribution of volunteers and mission success.

## **4. Methodology**

### **Application of the models to a NPO**

This is an exploratory, descriptive and explanatory research, (Vergara,1998, Gil,2002) with a case study that offers a more holistic view of the main characteristics of events in the real world, YIN (1988). The chosen respondents were 16 managers out of 23, with open-ended questions and questionnaires applied (65) with semi-structured questions to a non-probabilistic and convenience sample of volunteers in order to define proxies to obtain the value of the activity hours, growth and satisfaction of volunteering and allow the calculation of the impacts of their activities on others and the value of the mission on the DVAE and SROI models. It was produced a data-base of multiple sources of evidences that were ordered in a sequence. The case analyzed was the GRAACC Hospital.

## **5. Analysis of the Results**

### **5.1. Statement of Expanded Value Added considering the volunteers action and the success reached from the GRAACC mission**

The identification of the GRAACC Total Added Value, comprised by the volunteer activities and the mission is consolidated in Table 02.

An analysis of the Financial, Social and Combined columns show that:

- hours/month worked based on the hour value stated of the volunteers surveyed, producing an average hourly value that, multiplied by the total number of volunteers, generates an annual value of hours worked. The hours/month calculated in the DVAE, Social column, Primary line, is based on the estimated value of your volunteer hours by-entertainment hour;
- hours dedicated by volunteers of the boards and board of directors, generating the total value/year of their volunteer hours, as adjusted by a dedication factor;
- the amount of annual expenses not reimbursed by the NPO and reported as incurred, producing an average value multiplied by active volunteers;

The Secondary line considers the amount of R\$3,017,264.48 for the value of personal growth and Total Internal Production line, column, Social, will totalize R\$10,905,370.24; the Tertiary line did not show values;

**Table 02 – GRAACC – Expanded Added Value (Volunteer Work + Mission),**  
R\$, 2007

Results		<b>Financial</b>	<b>Social</b>	<b>Combined</b>
	<b>Primary</b>	29,857,643.45	7,888,105.76	37,745,749.21
	<b>Secondary</b>	-70,743.27	3,017,264.48	2,946,521.21
	<b>Tertiary</b>		0.00	0.00
Total Internal Production		29,786,900.18	10,905,370.24	40,692,270.42
(-) Goods and Services Acquired Externally (A)		14,549,955.66		14,549,955.66
<b>Total Value Added (B)</b>		15,236,944.52	10,905,370.24	26,142,314.76
<b>Value Added Index regarding external purchases (B/A)</b>		<b>1,05</b>	<b>0,76</b>	<b>1,8</b>
<b>Distribution of Value Added</b>				
Employees	Salaries and duties	13,443,384.22		13,443,384.22
Government	Taxes	4,649.20		4,649.20
Investors	Interests	95,032.47		95,032.47
Society	Contributions of volunteers + cost center of volunteer work + value of the mission	-70,743.27	7,888,105.76	7,817,362.49
Secondary Benefits to the volunteers	Personal Growth		3,017,264.48	3,017,264.48
Tertiary Benefits from volunteers work	Services provided <i>pro-bono</i> to third parties		0.00	0.00
Organization	Depreciation	1,764,621.90		1,764,621.90
	Contribution of the client company			
<b>Distribution of Total Value Added</b>		15,236,944.52	10,905,370.24	26,142,314.76

Source: elaborated by the authors

3. In the Combined column, Internal Production accumulates the values of lines Primary, Secondary and Tertiary (column Financial) R\$29,786,900.18, which together with the values not accounted for (column Social), R\$10,905,370.24, results in the Total Internal Production of R\$40,692,270.42;
4. Deducting, in the column Combined, the Goods and Services Acquired Externally of R\$14,549,955.66 in the NPO statements, there is a Added Value of R\$26,142,314.76;
5. The synthesis indicator of the value added by GRAACC, i.e., the wealth created in relation to goods and services purchased externally, is obtained by the ratio between the total value added and value of goods purchased externally,  $R\$26,142,314.76 / R\$14,549,955.66 = 1.80$ . The contribution made to society by the NPO when evaluating the difference in the index when monetizing the values called herein as Social, going from 1.05 to 1.80, or 71.4%, shows the importance of carefully analyzing the accounting data reported by the NPO, and their inferences and conclusions on the extent and quality of their actions;
6. The same index calculated without adding the effects of the value of the mission, only with the voluntary contribution value reached 1.59.

## **5.2. Distribution of Added value**

The value added created in table 02, R\$26,142,314.76, has its distribution attributed to the extended group of stakeholders and each of them was entitled to: the employees received their share of wages, and benefits of R\$13,443,384.22, the volunteers received based on the growth and experience acquired an amount of R\$3,017,264.48; the government received its share of taxes in the amount of R\$4,649.20; investors received interest amounting to R\$95,032.47, the company was paid by volunteer hours, expenses not reimbursed, and especially for fulfilling GRAACC's mission in the amount of R\$7,817,362.49, being the largest value delivered to society, the organization received the amount of depreciation in the year of R\$1,764,621.90.

## **5.3. Social Return on Investment - SROI, considered the contribution of volunteering and the level of success of the GRAACC Mission.**

The SROI index should be able to relate the value of the contribution of volunteer labor and expenses incurred with the mission. Some values are considered in

a limited way, for example, was not computed in the case of a productive citizen their intellectual contributions, its importance in the formation of a nuclear family or even the multiplying factor of their income on general level of economic performance. The data collected were adjusted to the time dimension associated with the economic value of a life saved, in the SROI formula. Since this value will happen in the future, capitalized values should be used for output (value of lives saved) and the input from the values of a current year (2007). Specifically, the value of a life saved will be built by the capitalization of their compensation estimated by the rate corresponding to the index of total factor productivity growth for the skills and competencies of the individual. This index for the State of Sao Paulo in the period 1986-1995, calculated by applying the Malmquist index, showed a rate of 2.8% per year, according to Marino *et al.* (2001). Considering the need for a more conservative stance in the projected values, this work adopted an annual rate of productivity of 2.5% per year.

A) *output* value:

$$\begin{aligned} \text{Value of success (output)} = & \left[ \begin{array}{l} \text{(R\$) capitalized value} \\ \text{of the services provided} \\ \text{by the programs (1)} \end{array} + \begin{array}{l} \text{(R\$) capitalized value} \\ \text{of the total lives saved (2)} \end{array} \right] + \\ & + \left[ \begin{array}{l} \text{(R\$) capitalized value of services} \\ \text{provided by the programs} \end{array} + \begin{array}{l} \text{(R\$) capitalized value} \\ \text{of the total lives saved} \end{array} \right] \times \% \text{ contribution} + \\ & + \text{(R\$) value of volunteer labor growth (4)} + \text{(R\$) capitalized value of the} \\ & \quad \text{volunteer's satisfaction (5)} \end{aligned}$$

where,

(1) (R\$) value of services allowed = (R\$) SUS + State Government + City Hall +  
by the health programs + Agreements + Philanthropy + Deficit/Superavit

(2) (R\$) economic value = (R\$) average of lives saved  $\times$  monthly income of the main work(a)  $\times$  13 years of life in activity (b)  $\times$  no. of lives saved (c)

(3) 16.22%, contribution of volunteer labor = estimate attributed by the researcher based on the relationship between the value calculated of the volunteers contribution and the value of payments accounted for (R\$ 4,841,592.86 / R\$ 29,857,643.45); (4) value of the volunteer labor growth= line Secondary, column Social of the DVAE, Table 3; (5) capitalized value of the volunteer labor satisfaction = capitalized value of the volunteer labor hours; (a) average actual income of those occupied, by gender, in the Metropolitan

regions and Federal District – 1998/2008, in Reais of January 2008 – Agreement DIEESE/SEADE, TEM/FAT and regional agreements, PED, elaboration DIEESE, inflator ICV-DIEESE/SP; (b) estimate in Nov/ 2005 of years in activity where taking the population occupied from 15 to 49 years one obtains 81% of the population, what allows to conclude that the active life expectancy is 34 years (49–15) according to the site: [www.ibge.gov.br/home/presidencia/noticias/noticia\\_visualiza.php?id\\_noticia=515&id\\_pag=1](http://www.ibge.gov.br/home/presidencia/noticias/noticia_visualiza.php?id_noticia=515&id_pag=1), consulted on November 5<sup>th</sup>, 2008; (c) 213 new cases in the year of 2007, with 64% of patients cured (average in the last 8 years), GRAACC Hospital .

- Capitalized value of the services provided by the programs

By using the formula for a Future Value of a Uniform Payment Series, Securato (2001:39), the effect of the productivity rate and the opportunity cost results in:

$$F = R \left[ \frac{(1+i)^n - 1}{i} \right] \left[ \frac{(1+il)^n - 1}{il} \right]$$

where: F = capitalized value of the services provided

R = value disbursed obtained in the NPO cash flow

i = productivity rate/month = 0.206% or 2,5% p.a.

il = opportunity cost = 0.486% or 6.0% p.a.

n = 42 years calculated on an 8 year base (from 10 to 18 years) + 34 years

$$\text{Capitalized value of the services provided} = \text{R\$ } 29,857,643.40 \left[ \frac{(1+2.5\%)^{42} - 1}{2.5\%} \right] \left[ \frac{(1+6\%)^{42} - 1}{6.0\%} \right]$$

$$\text{by the programs} = \text{R\$ } 382,655,552,688.00$$

- Capitalized value of the total lives saved

Taking the monthly salary of R\$ 1,158.00 (a) it will be capitalized for 8 years (from 10 to 18 years) through simple capitalization

$$F = R (1 + i)^n$$

where: F = monthly salary capitalized for 8 years

R = monthly salary (a) = R\$ 1,158.00

i = attractivity rate a year = 0.486% or 6,0% p.a.

n = capitalization period before the 8 years productive life

$$\text{Capitalized value of the monthly salary} = F = \text{R\$ } 1,158.00 (1 + 0.06\%)^8 = \text{R\$ } 1,845.68$$

$$\text{Value of monthly salary of a life saved, capitalized} = R \left[ \frac{(1+i)^n - 1}{i} \right]$$

for one year

where: R = monthly value of the monthly salary in the year 18 = R\$ 1,845.68

i = productivity rate/month = 0.206% or 2.5% p.a.

n = number of salary months /year = 12

number of lives saved / year = 136

value of monthly salary, capitalized for one year. = R\$ 1,845.68  $\left( \frac{1 + (0.00206)^{12} - 1}{0.00206} \right)$  = R\$ 22,400.83

Value/year of all lives = R\$ 22,400.83 x 136 lives/year = R\$ 3,046,512,90

The lives saved in one year are capitalized as a Uniform Series of Payments for the period of active live, considering the effects of the productivity/year and opportunity cost/year

Total capitalized value of a life saved = R  $\left( \frac{(1+i)^n - 1}{i} \right) \left( \frac{(1+i1)^n - 1}{i1} \right)$

where: R = annual value of all lives saved = R\$ 3,046,512.90.

i = productivity rate/month = 0.206% or 2,5% p.a.

i1 = attractivity rate/year = 0.86% or 6,0% p.a.

n = active live expected (b) = 34 years

Total capitalized value of lives saved = R\$ 3,046,512,90  $\left( \frac{(1 + 2,5\%)^{34} - 1}{2,5\%} \right) \left( \frac{(1 + 6,0\%)^{34} - 1}{6,0\%} \right)$   
 = R\$ 16.697.663.018,70

- Capitalized value of the voluntary labor contribution in the value of services and in the value of lives saved

Add to the *outputs* flow the capitalized amounts of the voluntary labor contribution (16.2%) (3) to the value of services and to the value of lives saved, i.e.,  
 (R\$ 382,655,552,688.00 + R\$ 16,697,663,018.70 ) = 399,353,215,706.00 x 16.22% =  
 = R\$ 64,775,091,597.00

- Capitalized value of the voluntary labor growth

Capitalized through the productivity (2.5%), as there has never been a disbursement of amounts for the payment of this labor .

Capitalized amount of voluntary labor. = R  $\left( \frac{(1+i)^n - 1}{i} \right) \left( \frac{(1+i1)^n - 1}{i1} \right)$

where: R = annual value of the voluntary labor growth, Secondary line, Social column

of the DVAE, table 04 = R\$ 3,017,264.48

$i$  = productivity rate/month = 0.206% or 2.5% p.a.

$i1$  = attractivity rate/year = 0.486% or 6,0% p.a.

$n$  = 42 years calculated for 8 years (from 10 years to 18 years) + 34 years of productive life

$$\begin{aligned} \text{capitalized value} &= \text{R\$ } 3.017.264,48 \left[ \frac{(1+2,5\%)^{42} - 1}{2,5\%} \right] \left[ \frac{(1 + 6\%)^{42} - 1}{6,0\%} \right] = \\ \text{of voluntary labor} &= \text{R\$ } 38,669,261,575.60 \end{aligned}$$

- Capitalized value of voluntary labor satisfaction

The hours of voluntary labor are capitalized by using:

$$F = R \left[ \frac{(1+i)^n - 1}{i} \right] \left[ \frac{(1+i1)^n - 1}{i1} \right]$$

where:  $F$  = capitalized value of the volunteer work hours

$R$  = part of the Primary value, Social column, table 01

$i$  = productivity rate/month = 0.206% or 2,5% p.a.

$i1$  = opportunity cost = 0.486% or 6,0% p.a.

$n$  = 42 years calculated for 8 years (from 10 years to 18 years) + 34 years

$$\begin{aligned} \text{(R\$) value of volunteer} &= \text{R\$ } 4,841,592.86 \left[ \frac{(1 + 2.5\%)^{42} - 1}{2.5\%} \right] \left[ \frac{(1 + 6\%)^{42} - 1}{6.0\%} \right] = \\ \text{work, Primary,} & \end{aligned}$$

Social column, table 03 = R\$ 62,049,854,093.70

$$\begin{aligned} \text{Success value (outputs)} &= (\text{R\$ } 382,655,552,688.00 + \text{R\$ } 16,697,663,018.00) + \\ &+ (399,353,215,706.00 \times 6.22\%) + \text{R\$ } 38,669,261,575.00 + \\ &+ \text{R\$ } 62,049,854,093.00 = \text{R\$ } 564,847,422,9741.00 \end{aligned}$$

B) the *input* value: Added value (*input*) = (R\$) capitalized philanthropy, hospital and other income (except Deficit) + (R\$) capitalized value of the volunteer work (part of Primary line, Social column at DVAE, table 01)

- Capitalized value of revenues

By using the formula for the Future value of a Uniform Series of Payments, considering the effect of the productivity rate and opportunity cost, the result is:

$$F = R \left[ \frac{(1+i)^n - 1}{i} \right] \left[ \frac{(1+i1)^n - 1}{i1} \right]$$

where: F = capitalized value of the philanthropy, hospital and other income (except Deficit),

R = value received, obtained from the NPO cash flow

i = productivity rate/month = 0.206% or 2,5% p.a.

il = opportunity cost = 0.486% or 6,0% p.a.

n = 42 years calculated for 8 years (from 10 years to 18 years) + 34 years

$$\begin{aligned} \text{(R\$) capitalized revenues} &= \text{R\$ } 28,141,500.34 \left[ \frac{(1+2.5\%)^{42} - 1}{2.5\%} \right] \left[ \frac{(1+6\%)^{42} - 1}{6.0\%} \right] = \\ \text{philanthropy, hospital and} & \\ \text{and other income (except Deficit)} &= \text{R\$ } 360,661,468,357.00 \end{aligned}$$

- Capitalized value of the volunteer labor hours

Capitalize the volunteer work hours by using

$$F = R \left[ \frac{(1+i)^n - 1}{i} \right] \left[ \frac{(1+il)^n - 1}{il} \right]$$

where: F = capitalized value of the volunteer work hours

R = part of Primary value, Social column, table 03

i = productivity rate/month = 0,206% or 2,5% p.a.

il = opportunity cost = 0,486% or 6,0% p.a.

n = 42 years calculated for 8 years (from 10 years to 18 years) + 34 years

$$\begin{aligned} \text{(R\$) value of volunteer} &= \text{R\$ } 4.841.592,86 \left[ \frac{1 + 2,5\%}{2,5\%} \right]^{42} - 1 \left[ \frac{(1 + 6,0\%)^{42} - 1}{6,0\%} \right] = \\ \text{work (part of Primary value,} & \\ \text{Social column), table 03} &= \text{R\$ } 62,049,0854,093.70 \end{aligned}$$

$$\text{Added value (input)} = \text{R\$ } 360,661,468,357.00 + \text{R\$ } 62,049,854,093.70 =$$

$$= \text{R\$ } 422,711,322,450.70$$

Therefore, the SROI calculated, considering the values found for the volunteer labor contribution and for the mission accomplished, will be:

$$\text{SROI} = \text{R\$ } 564,847,0422,9741.00 / \text{R\$ } 422,711,322,450.70 = 1.34$$

To validate the results of the mission, we calculated the internal rate of NPO return flows, computing the economic value of the mission beyond the added value achieved by voluntary labor. We took the initial investment (input) of R\$32,983,093.20 = (R\$28,141,500.34 + R\$4,841,592.86) and calculated the cash flows of the project, capitalized at the productivity rate of 2.5%. The output was divided into two parts: one had values capitalized for 8 years (from age 10 until age 18, when the active life begins)

added to 34 years (estimated years in business) for the value of lives saved and the volunteer contribution, another part was capitalized for 42 years and refers to the value of services provided by the programs, to the values of volunteer labor growth and their satisfaction in voluntary activity, resulting in a IRR of 30.32% p.a.. In the analysis of the SROI, in Table 03, 39% of the resources applied, expressed or implied, are produced by the volunteers. When one adds the mission accomplished there is an expressive increase in the productivity per unit invested.

**Table 03** – SROI rate of the volunteer labor contribution and mission’s value

<b>SROI RATE ANALYSIS</b>		
SROI Rate	OF VOLUNTEER CONTRIBUTION	OF MISSION + VOLUNTEER WORK
	0.39	1.34

**Source:** elaborated by the authors

In the analysis of value added, under 04, when considering the impact achieved in fulfilling the mission, the DVAE identifies the magnitude of values not informed in the financial statements, distorting any assessment that is intended on the returns provided by the NPO, whether from the perspective of the lender, either the manager or the agents of the action themselves.

**Table 04** – Analysis of the Value Added by the NPO, considering the volunteer labor contribution and mission’s value, R\$ 000, 2007

<b>ADDED VALUE ANALYSIS</b>		
	%	R\$
Values informed	58	15,237
Values not informed	42	10,905

**Source:** elaborated by the authors

An analysis of the rates that relate the value created to the value of external purchases, considered as not creating value in the DVAE model, shows in table 05, the importance of the intangible values of the volunteer work added to the mission value.

**Table 05** – Value Added Rates of the volunteer work and mission’s value, regarding the external purchases, 2007

<b>ANALYSIS OF THE ADDED VALUE RATE</b>			
	Financial Column	Δ Social	Combined Column
GRAACC	1.05	0.76	1.8

**Source:** elaborated by the authors

Table 06 presents how the collective results obtained in the DVAE are distributed to the stakeholders.

**Table 06**–The Value Added Distribution and the mission’s value, R\$ 000, 2007

<b>DISTRIBUTION OF ADDED VALUE</b>	
Main beneficiaries	
SOCIETY	7,888
(contribution of volunteers + volunteers cost center)	
VOLUNTEERS	3,017

**Source:** elaborated by the authors

## 6. Conclusions

Processes in the social area must be capable of allowing continuous, non-punctual monitoring, Fischer (2005). The new measurement systems when considered appropriate, given the returns obtained, might bring the risk that their use becomes a universal truth and are not subjected to the need of constant questioning.

This work identified the value of volunteering, by incorporating the value of the mission accomplished by the NPO producing a new reality, little-known by managers. The inadequacy of traditional accounting procedures had its solution presented in alternative calculation forms with the use of proxies to obtain the value created.

In applying the DVAE method, it was possible to visualize the donations made by volunteers, as well as their earnings, reflecting the value of the social impact of the mission accomplishment. This work has innovated the practice settings in the techniques used by the method of calculating the SROI; also identified the amount of “social secondary” gain, derived from knowledge and learning earned by volunteer labor (personal growth). A third result refers to the Added Value Distribution, which showed how value is distributed among each stakeholder, demonstrating their participation in the overall value created by the NPO, signaling possible priorities and informing the society. In applying the Social Return on Investment (SROI), proxies were used by the application of statistical indicators for the population and measures of sensitivity perception of the NPO participants, allowing the formulas suggested to translate a conservative approach to the mission’s returns.

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