

# **The Scarce Resources Model for Measuring the Return on Investment (ROI) of Volunteer Engagement**

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Revised January 23, 2012

## What is the Scarce Resources model for calculating ROI?

The Scarce Resources model combines the value of the volunteer's time with the cash costs of engaging volunteers and compares that sum with the value of the accomplishments, outputs and/or outcomes related to the engagement of volunteers. It is a process for measuring in a "bang-for-the-buck" sort of way, but different in that it includes the volunteer's time as part of the "bucks".

The basic premise behind the usefulness of this can be illustrated with the following.

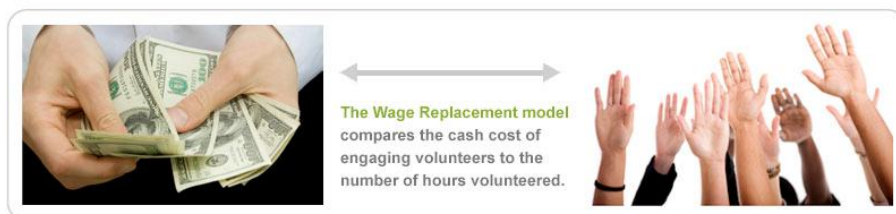
If you had a passion for the environment and had the opportunity to volunteer for one of two environment organizations whose sole function was the planting of trees, would you volunteer for nonprofit A or B?

- Everything about the two nonprofits' structure, financing, staffing etc. is identical.
- Both nonprofits plant 500,000 trees a year.
- Nonprofit A consumes 100,000 hours of volunteer time and Nonprofit B consumes 90,000 hours of volunteer time.

Clearly Nonprofit B gets more "bang-for-the-buck". If you chose Nonprofit B you intrinsically understand the usefulness of the Scarce Resources ROI model. It will help you see things this clearly even when the issues are not as simplistic as the example above.

## How can it be used?

- Compare the results of your volunteer engagement from year to year.
- Compare the effectiveness of various volunteer roles that set out to accomplish the same Output.
- In large nonprofits compare the efficiencies between different locations. (Given the arbitrary nature of some of the values you set, comparisons between different nonprofits are not practical.)



## Examples to explain the concept

The following series of examples start with a greatly simplified set of circumstances. It is so simplified that is not even realistic. The series of examples has been designed to make it easier to get used to the concept first with simple scenarios before moving on to more complicated ones. Each example adds a little more complication. Even the final example won't replicate the environment in your organization. The examples will help you get started in determining what values you could use in your organization and if you need help there are consultants you can call on who can be of assistance.

As we get into the examples you will see there is a degree of ambiguity that will be introduced in many cases. That some of the values are somewhat arbitrary need not be a concern because that arbitrary property remains consistent as you compare the results of one year to the next.

### Example 1A

Assumptions in this example

- There are no cash costs
- Volunteers do one thing & one thing only – plant trees
- Intuitively simple numbers

	Year A	Year B
Wage replacement value	\$200,000	\$240,000
Trees Planted	400,000	375,000
Return On Investment (ROI)	100%	56%

The ROI calculation is actually quite simple **ROI = (Outputs-Inputs) / Inputs x 100**

In this case we are comparing apples to oranges (money to trees planted) but this is only to get us started. Examples further on correct for this.

Even without the ROI calculation we can intuitively judge that Year A demonstrated better performance than Year B. Year A had lower wage replacement value (meaning fewer volunteer hours in this case) while planting more trees. As stated earlier the ROI calculation will tell us which year demonstrated better performance when the situation is not as simple.

### Example 1B

Assumptions in this example

- There are no cash costs
- Volunteers do one thing & one thing only – plant trees
- Unintuitive numbers

	Year A	Year B
Wage replacement value	\$240,000	\$200,000
Trees Planted	400,000	375,000
Return On Investment (ROI)	67%	88%

In year A, for every \$1 in volunteer time 1.67 trees were planted.

In year B, for every \$1 in volunteer time 1.88 trees were planted.

### Example 1C

Assumptions in this example

- Volunteers do one thing & one thing only – plant trees
- Cash costs are now included in the calculation

	Year A	Year B
Wage replacement value	\$240,000	\$200,000
Volunteer Engagement Cash Costs	\$100,000	\$100,000
<u>Total Volunteer Engagement Costs</u>	<u>\$340,000</u>	<u>\$300,000</u>
Trees Planted	400,000	375,000
Return On Investment (ROI)	17%	25%

In year A, for every \$1 in volunteer time and cash expenses combined, 1.17 trees were planted.

In year B, for every \$1 in volunteer time and cash expenses combined, 1.25 trees were planted.

## Example 2A – Providing a service also available commercially

Assumptions in this example

- Volunteers do one thing & one thing only – prepare basic personal tax returns
- The retail value of having a basic personal tax return prepared is \$25
- Cash costs are included in the calculation

	Year A	Year B	
Wage replacement value - accountants	\$200,000	\$225,000	
Volunteer engagement cash costs	\$100,000	\$100,000	
Total volunteer engagement costs	\$300,000	\$325,000	Total inputs
Tax returns completed	20,000	22,000	
Retail value of a single tax return	\$25	\$25	
Value of all tax returns completed	\$500,000	\$550,000	Total outputs
Return On Investment (ROI)	67%	69%	

In year A, for each \$1 in volunteer time and cash spent, \$1.67 worth of tax returns were completed.

In year B, for each \$1 in volunteer time and cash spent, \$1.69 worth of tax returns were completed.

**Example 2B – Inclusion of roles that indirectly contribute to the mission of the organization**

Assumptions in this example

- In year A Volunteers do one thing & one thing only – prepare basic personal tax returns  
In year B a new volunteer role is introduced; client receptionist. The result of adding this role was that through better channeling of clients, more tax returns were completed in the same amount of time volunteered by the accountants.
- The retail value of having a basic personal tax return prepared is \$25
- Cash costs are included in the calculation

	Year A	Year B	
Wage replacement value - accountants	\$200,000	\$200,000	
Wage replacement value - receptionist		\$15,000	
Volunteer engagement cash costs	\$100,000	\$100,000	
Total volunteer engagement costs	\$300,000	\$315,000	Total inputs
Tax returns completed	20,000	22,000	
Retail value of a single tax return	\$25	\$25	
Value of all tax returns completed	\$500,000	\$550,000	Total outputs
Return On Investment (ROI)	67%	75%	

In year A, for each \$1 in volunteer time and cash spent, \$1.67 worth of tax returns were completed.  
In year B, for each \$1 in volunteer time and cash spent, \$1.75 worth of tax returns were completed.

Although the role of receptionist does not involve an effort directly associated with the completion of a measurable output, the effort extending in this role supports those who are creating the measurable outputs and as such the wage replacement value of that position needs to be included. Although not directly involved in completing tax returns, the process of working with many clients is more efficient because of the receptionist, leading to more tax returns getting completed.

The higher the total value of the outputs and the lower the total value of the inputs (of any kind), the better the ROI. Regardless of the types of inputs or “costs” that need to be included, the Scarce Resources ROI methodology captures the relationships of inputs and outputs.

**Example 3A – Providing a service also available commercially – The effect of adding new costs (inputs)**

Assumptions in this example

- ROI is being measured for one program within the nonprofit
- Volunteers do one thing & one thing only in this program – drive people to their doctor’s appointments
- The average one way cab fare within the nonprofit’s service area - \$25 including tip
- A single one way trip would take a volunteer an average of one hour. Volunteers do not wait with the client (just an assumption for this example).
- Cash costs are included in the calculation
- In year B new costs (inputs) are introduced (e.g. additional criminal background checks, volunteer appreciation gifts, etc.)

	Year A	Year B	
Appointments serviced	2,100	2,100	
Average cab fare (both ways)	\$50	\$50	
Value of all appointments serviced	\$105,000	\$105,000	Total outputs
Wage replacement value	\$84,000	\$84,000	
Volunteer engagement cash costs (excluding mileage)	\$15,000	\$25,000	
Mileage reimbursed to volunteers	<u>\$5,250</u>	<u>\$5,250</u>	
Total volunteer engagement costs	\$104,250	\$114,250	Total inputs
Return On Investment (ROI)	1%	-8%	

In year A, for each \$1 in volunteer time and cash spent, \$1.01 worth of transportation is provided.  
 In year B, for each \$1 in volunteer time and cash spent, \$0.92 worth of transportation is provided.

### Example 3B – Including outputs with no obvious number to attach as the value

Assumptions in this example

- ROI is being measured for one program within the nonprofit
- In Year A volunteers drive people to or from their doctor's appointments but do not wait there. In Year B volunteers drive people to and from their doctor's appointments and wait there.
- The average one way cab fare within the nonprofit's service area - \$25 including tip
- The value attributed to waiting with the client at the appointment is deemed to be \$50. (How this value might be determined follows the example.)
- A single one way trip would take a volunteer an average of one hour. A two way trip, including wait time would take 3 hours.
- Cash costs are included in the calculation
- The same number of volunteer hours are available to the organization in both years.

	Year A	Year B	
Appointments serviced	2,100	1,400	
Average cab fare (both ways)	\$50	\$50	
Value attributed to waiting at the appointment	n/a	\$50	
Total value of all appointments serviced	\$105,000	\$140,000	Total outputs
Wage replacement value	\$84,000	\$84,000	
Volunteer engagement cash costs (excluding mileage)	\$15,000	\$15,000	
Mileage reimbursed to volunteers	\$5,250	\$3,500	
Parking reimbursed to volunteers	n/a	\$14,000	Total inputs
<u>Total</u> volunteer engagement costs	\$104,250	\$116,500	
Return On Investment (ROI)	1%	20%	

In year A, for each \$1 in volunteer time and cash spent, \$1.01 worth of service was provided

In year B, for each \$1 in volunteer time and cash spent, \$1.20 worth of service was provided

#### Determining a value for waiting at the appointment

Firstly, please note that I use the phrase “a value” and not “the value”. Although an absolutely precise number might not be available, some sort of estimation is better than no information at all. If flying to an unknown destination, knowing a rough temperature range to pack for would be better than no information at all.

In this specific case a value could be approximated by using a trade-off approach. For example, clients could be asked; “Out of every ten appointments we drive you to, how many of the rides we give you would trade for having a volunteer stay with you while you wait for your appointment and then drive you home again?”

- If the average response was zero then that would tell you that the clients value the free ride and perhaps the company on the ride more than they do company in the doctor's office.
- If they average is five, it suggests a value that is equivalent to the cab. They would be saying that they would trade five cab fares for company in the office while waiting on the remaining five. That would indicate a value of company at the appointment of \$50.
- If the average number they would give up was 8, they would be saying that company on two appointments was worth the same as rides without office accompaniment on eight. That would indicate a value of company at the appointment of \$200.

### Example 3C – The importance of sticking to your organization’s mission

Assumptions in this example

- Same as Example 3B especially that :
  - There is a fixed number of volunteer hours available to the organization
  - In Year A volunteers drive people to or from their doctor’s appointments but do not wait there. In Year B volunteers drive people to and from their doctor’s appointments and wait there.
- The mission statement of the organization is as follows” To relieve the financial burden of cancer patients with limited income who have to rely on taxis for transportation to doctor’s appointments and treatments.”

	Year A	Year B	
Appointments serviced	1,400	2,100	
Average cab fare (both ways)	\$50	\$50	
Value attributed to waiting at the appointment	n/a	n/a	
Total value of all appointments serviced	\$70,000	\$105,000	Total outputs
Wage replacement value	\$84,000	\$84,000	
Volunteer engagement cash costs (excluding mileage)	\$15,000	\$15,000	
Mileage reimbursed to volunteers	\$3,500	\$5,250	
Parking reimbursed to volunteers	<u>\$14,000</u>	<u>n/a</u>	
<u>Total</u> volunteer engagement costs	\$116,500	\$104,250	Total inputs
Return On Investment (ROI)	-40%	1%	

In year A, (in this example the year they waited with patients) for each \$1 in volunteer time and cash spent, \$0.60 worth of service related to the mission of the organization was provided

In year B, (in this example the year they did not wait with patients) for each \$1 in volunteer time and cash spent, \$1.01 worth of service was provided

#### Determining a value for waiting at the appointment

Year B represents a far more successful year in terms of addressing the mission of the organization. Those running the driver program might feel that keeping the client company during an appointment is very important and the clients might think it is wonderful. Frankly I would find it hard not to imagine either of those things. However, if we believe the primary purpose of volunteer engagement in most nonprofits is to further the mission of the nonprofit, then with the information above, we need to see year B as the more successful year.

It is important to keep in mind that this is simply an example to illustrate a point. In reality it might be the case that volunteers are easier to recruit and retain if their role includes waiting with the client. The point to this example is that measuring ROI holds us accountable to the organization’s mission. If the values on

the outputs are in line with the mission, ROI measurement indicates how well resources are being managed toward the attainment of the organizational mission.

If part of the mission of the nonprofit in example 3B was to improve the experience of cancer patients having to attend frequent doctor's appointments and treatments, then a value for companionship while waiting would be a requirement. In the absence of anything along those lines, it should not be considered.

This is fundamental to the Scarce Resources model for calculating ROI. Only those outputs that contribute to the mission are considered. One of many advantages of using this methodology is that once your board or senior management agrees to the value of outputs, they cannot disagree with the ROI results you present to them later.

### Example - 4 Volunteers are engaged in creating a variety of types of outputs

Assumptions in this example

- Volunteers in a hospital are engaged in five different roles: friendly visits, pet foster care community presentations, an annual fundraising gala and assisting the manager of volunteers.

	Year A	Year B
Friendly visits	5,500	6,000
Pet foster care	300	315
Community presentations	20	80
Gala money raised	\$250,000	\$255,000
Administrative assistance for the manger of volunteers	300 hrs	350 hrs

Without attaching a common reference to each of the items above, how can we determine which year represents the better management of volunteer resources? To apply any sort of ROI calculations so the first step is apply a common type of value to each of them. Although it can be a challenge to place a value on what a friendly visit is worth to a person who is alone and ill (isn't it priceless?) there are some techniques that can be applied.

The methodology for coming up with the numbers in the table below are beneath the table. The numbers are fictional but the methodology can be applied to real numbers as well of course.

	Year A			Year B		
	Output	Unit value	Total Value	Output	Unit value	Total Value
Friendly visits	20,000	\$100	\$2,000,000	20,500	\$100	\$2,050,000
Pet foster care nights	300	\$25	\$7,500	315	\$25	\$7,875
Community presentations	20	\$3,000	\$60,000	80	\$3,000	\$240,000
Gala (after event expenses)	\$250,000		\$250,000	\$255,000		\$250,000
<b>Total value of all outputs</b>			<b>\$2,317,500</b>			<b>\$2,547,875</b>
WRV* - Friendly visits			\$200,000			\$205,000
WRV - Pet foster care			\$6,000			\$6,300
WRV - Community presentations			\$1,200			\$4,800
WRV - Gala			\$30,000			\$30,000
WRV – Admin Assistant			\$12,480			\$12,480
WRV -Training sessions			\$16,000			\$16,000
Cash Expenses			\$125,000			\$125,000
<b>Total volunteer engagement costs (Total inputs)</b>			<b>\$390,680</b>			<b>\$399,580</b>
<b>Return On Investment (ROI)</b>			<b>493%</b>			<b>539%</b>

\*Wage Replacement Value

In year A, for each \$1 in volunteer time and cash spent, \$4.93 worth of benefits and funds were returned. In year B, for each \$1 in volunteer time and cash spent, \$5.39 worth of benefits and funds were returned.

### **How values were derived (theoretically)**

#### Outputs

- Pet foster care nights – the average cost of premium boarding per night
- Gala – money raised
- Community presentations – Over time the organization has determined that, on average, each community presentation generates \$1,500 in unsolicited donations and an average one new longer term volunteer. Further, over time the organization has determined that the average volunteer donates \$1,000 over the course of the involvement. The \$1,500 and \$1,000 combine to make the \$2,500 value used in this example. Given that the community presentation generates additional volunteers, going forward more patient visits or other things would become possible. Because those incremental outputs will be including ROI calculations in the future, we don't need to account for the value of a new volunteer here.
- Friendly visits - The trade off approach could be used to approximate a value. It is all very hypothetical but it does help determine a value to the hospital, even if the patient might still see it as priceless. Imagine as the manager of volunteers in a hospital, someone comes into your office and offers to donate her time to complete 1,000 patient visits OR donate \$1,000,000. Which would you take? If you say the money, then 1000 patient visits is not worth \$1,000,000 to you. So now consider the same offer except now the donation would only be \$500,000. Which would you take? Keep reducing the amount of the donation and you have determined the value of a patient visit to the hospital. In the example above, the donation had to go below \$100,000 before it was preferred over the 1,000 visits. This led to suggest an approximate value of patient visit to the hospital to be \$100.
- Administrative assistant – Although the role is very important as it leads more patient visits and community presentations being done, there is no measurable output. The hour in this role needs to count of course and they are included as inputs.
- Training is provided to volunteers throughout the year and is fundamental to helping them fulfill the role of friendly visitor. Like the admin assistant's hours, they are included as inputs.