

**CONCEPT BRIEF**  
**IMPACT MODELING**  
**PURPOSE, USES, AND BENEFITS**  
**FOR PHILANTHROPIES AND NONPROFITS**

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**DEFINITION AND PURPOSE**

An impact model quantifies the impact of a specific program or intervention and how much this impact will cost. Impact modeling has several purposes:

- a. **Define Goals:** Outline in quantitative terms what impact an organization is trying to achieve and how much it will cost.
- b. **Assess Performance and Risks:** Monitor progress by analyzing actual impact and costs and comparing them to planned impact and costs.
- c. **Support Decisions:** Determine whether to adjust goals, allocate capital, and/or refine operations, to achieve best results.
- d. **Evaluate Results:** Demonstrate to funders, staff, and other stakeholders the impact the organization has achieved with funds spent.
- e. **Advocate for the Program:** Mobilize additional funding from external partners (governments, philanthropies, etc.) by sharing impact and the investment necessary to achieve that impact.
- f. **Advance Learning and Build Capacity:** Understand and share learning from impact modeling with a program, a grantee, a funder, or the field.

**USES AND BENEFITS**

This concept paper will briefly explain the uses and benefits of impact modeling for each purpose listed above.

**Define Goals**

Quantifying the goals of a program or intervention and estimating how much it will cost to achieve each goal is a simple and powerful use of an impact model. The benefit is a more specific and clear understanding of impact and costs, which can then be used for multiple purposes: clarify the goals of a program (who, what, when, where, how much), better plan a program, ensure it has adequate funding, etc.

In one example, a program might want to provide public computing and internet access to a specific country. An impact model can estimate that if a program installs [x] number of computers in [y] buildings, then it can provide [z] people with access to the internet over a certain period of time. (For purposes of this paper “impact” is broadly defined as a benefit, and we do not differentiate between outputs, outcomes, and improvements in people’s lives). An impact model can also estimate how much this program will cost to implement and sustain the program.

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Conversely, without this analysis, goals may be unclear, which makes it more difficult to direct and operate a program. Costs are more challenging to estimate, leading to funding overruns or shortages.

## **Assess Performance & Risks and Support Decisions**

Once a set of impact goals and costs are quantified, another use of impact modeling is tracking actual performance against original goals and costs. This exercise is usually a natural evolution of goal definition. The benefits are straightforward: impact modeling can help an organization assess its performance against its original goals. Impact modeling also supports management and operational decisions to ensure the organization either achieves its original goals or adapts them in light of new information and experience in the field.

For example, after tracking the performance of a public access computing program with an impact model, staff determined that it costs more to provide rural sites with computers and internet access and these sites reach fewer people than sites in more densely populated areas. The impact model led the program staff to make an informed decision between reallocating computers to less expensive urban sites that reach more people, or accepting a smaller impact in exchange for serving rural areas.

Another major use and benefit of impact modeling is a better understanding of risk. For example, an impact modeler can vary the price of computer to understand that if the price increases by [x] amount, then the program can only afford to purchase [y] computers instead of the larger amount [z], which means the program can reach [x] less people than before. By itself, the risk of a price increase translates to [x] less impact, all other things being equal.

Without an impact model to monitor and track basic quantitative metrics of impact, cost, and risk, a program will have a difficult time monitoring its performance and knowing whether it is making the right program decisions to maximize impact with a certain amount of funds.

## **Evaluate Results and Advocate for the Program**

An impact model also performs the function of helping a program evaluate and demonstrate the results of its efforts. This exercise is important not only to assess whether a program has achieved its original goals, but also to demonstrate its impact to existing and potential funders. This allows the organization to show its effectiveness and raise more money to continue its work.

In the example of our public access to the internet program, a major philanthropy supporting the program has provided a grant to the organization for five years, after which the organization must find funds from national and municipal governments to continue operations. Impact modeling enables them to demonstrate success in quantitative terms: it has provided [x] number of computers to [y] building sites, which has allowed [z] people to access the internet over five years. With additional [x] amount of funds, the program projects to reach [z+1] more people in another three years. By using concrete, quantitative results and projections, the program can more clearly demonstrate impact, correlate impact with cost, and advocate more effectively for additional funding.

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The inability to demonstrate in quantitative terms what impact a funder is receiving for its investments can create misaligned expectations for existing funders. It also makes it much more challenging to attract new funders for the program, because the program cannot quantify what a potential funder is receiving for its investment.

## Advance Learning and Build Capacity

One significant purpose and benefit that is often overlooked with impact modeling is the opportunity to advance learning and build capacity. If performed properly, impact modeling can push the organization to better understand its impact and how that impact relates to costs. Impact modeling can also help grantees in the field better manage its operations and performance.

In our example of public access computing, a program quantifies a goal to put six computers in Building A. How many people will the program reach? If Building A is open for eight hours a day five days a week and computer sessions are limited to one hour each, then each computer could service a maximum of eight sessions a day, or 40 sessions a week. With six computers Building A could offer 240 sessions. If a rule is made that an individual can only use the computer one session per week, then the maximum number of people Building A can serve is 240 people per week.

Let's say Building A has a problem: demand is too high and there are too few computers to meet that demand. It has several options. One idea might be to decrease the session time to 30 minutes instead of one hour. This would allow Building A to offer 480 sessions instead of 240. Another idea would be for the program to take two computers from Building B, where computers are not fully utilized, and instead give them to Building A. In total, the program is more efficient, because Building A and B are reaching more people with the same amount of computers and cost.

By quantifying impact and the cost to achieve that impact, the program is in a better position to understand its options and adjust the program to achieve better quantitative results. If the program does not understand these quantitative relationships, then the opposite is true—it most likely does not understand its options and is not maximizing its investments to achieve the best results.

## LIMITATIONS OF IMPACT MODELING AND OTHER CONSIDERATIONS

The above examples are highly simplified to demonstrate uses and benefits of impact modeling. It is also important to understand the primary limitations of impact modeling:

- **Unquantifiable impact:** some forms of impact are unquantifiable or are so difficult to quantify that it is not worth the time or money to do so. Commissioning art is one obvious example; another might be quantifying the impact of a good university education. Impact modeling tends to work the best for programs that provide or otherwise work with a direct good or service: a few examples are public access computing, financial services, and agriculture.

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- **Meaningless or false precision:** One pitfall is when programs spend too much time attempting to perform precise calculations that are meaningless in the larger scheme of the work effort. For example, an impact modeler might spend a lot of time estimating the exact price of computer peripherals (mouse, keyboard, etc.), when in reality getting these prices exactly right has little or no effect on the overall cost of the project. Another example might be when an impact modeler spends an inordinate amount of time calculating a program's goal to reach 537,639 people in a given year—this is obviously both false and meaningless precision.
- **Complexity versus simplicity:** There is always a tension between complex models that perform more functions but are also more difficult to build, maintain and understand, versus more simplistic models that are easier to build and understand but might risk oversimplifying critical elements of the program. Balancing this tension is as much an art as it is science, and as the complexity of the organization or program increases this tension also increases.
- **Availability and quality of data:** Impact modeling is always limited by the availability and quality of existing data. An impact modeler can make all the right choices and build an amazing and rigorous model, but if the data is bad the model will also be bad. It is critical in impact modeling to understand the limitations of available data, and to work with the program closely to control and (if necessary) improve data over time.
- **Too much emphasis on specific numbers:** With few exceptions, impact modeling is an inexact science—the point is to be “directionally correct and exactly wrong”. Sometimes it is easy to forget this fact and instead focus on specific numbers, instead of the overall story these numbers tell.

For example, a program might target 1 million people that will benefit from a public access computing program. This target is enticing and easy to fix upon because it is a large, round number. But it might be that a program can have more impact reaching 800,000 lower-income people with the same amount of funds. Or perhaps populations in rural areas are difficult to estimate, so 1 million is the high end of a range—say between 750,000 to 1 million—and therefore the target should be 875,000 within a range of 125,000. If 1 million is given too much emphasis, then the program might be perceived as falling short of its goals when in fact it is not.

- **Lack of integration with program management and decision-making:** Impact modeling is only useful if it is embraced by program management to achieve one or more purposes listed above. Impact modeling must be accepted and integrated within the program to be effective.

For all of the above reasons, technical assistance and customized support is almost always necessary to ensure a program receives the maximum benefit of impact modeling. Impact modeling can be very powerful and effective in helping an organization achieve its program objectives. It can also be a frustrating and ineffective exercise if done incorrectly. It is for this reason that most organizations hire professionals who have technical and analytical impact modeling expertise.