

Optimizing Program Impact and Cost-Effectiveness

Philanthropic Venture Partnership Opportunities for the Non-profit Community

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Overview

This is a brief introduction to “venture partnership,” which involves introducing a variety of entrepreneurial concepts, practices, and standards of planning and evaluation into non-profit activity. Such concepts are new to the philanthropic communities, and may seem unusual in the context of academic research and other non-profit activity. This document, therefore, attempts to introduce venture philanthropy by outlining a learning exercise in creative thinking - the core of entrepreneurial success.

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I. Introduction

Progress-Generating Creativity

Creative, innovative, productive, aspiring people are the key to success in nearly any venture. Many philanthropists and grantmaking institutions now seek to foster an ambitious and dynamic *success-generating entrepreneurial ethos* among program managers supported by their grants.

The future of effective grantmaking will demonstrate foundations providing philanthropic investments in *venture partnership* with outstanding people of talent and vision. Providing capital to be utilized by such people in developing programs allows their vision to flourish. Oftentimes the degree of success hinges on the ability of the grantee to develop and utilize *new skills* as an effective entrepreneurial project creator/manager. Demonstrated skillfulness is knowing when to seize opportunities that *make a program successful*.

From the point-of-view of grant applicants, a foundation may appear as an institution with pools of money and concerns about making its IRS grantmaking requirements. This is generally not true, and It is important to recognize that the John Templeton Foundation certainly does not view itself this way. Our activities equate more to *philanthropic venture capital investments*. Our grantmaking is directed toward *changing the world* over the long-term in a few wholesome ways. In the true business sense, prudent investing focuses on sustained long-term growth where the access to capital enables a person or organization to start something which will flourish over time through the power of *sustained and growing momentum*. The John Templeton Foundation's philanthropic investments attempt to use this business acumen.

The long-term success of a venture depends largely on the ability of grant recipients to use resources which serve to catalyze further opportunities. Especially we are looking for philanthropic opportunities with high '*leverage*' potential. The term "leverage" refers to the capability of utilizing a project investment to build momentum by connecting with a much larger resource base. The organization should demonstrate capable management and adaptive strategies that show clear objectives in developing a fiscally healthy organization. This allows for a greater likelihood of *sustained and growing momentum*.

Building vision broadly within the social order and also especially with opinion-leading changemakers is a goal of the John Templeton Foundation. This requires a focused combination of skills and activities which produce excellence, innovation, persuasiveness, and strategic and effective outreach.

A key feature of "entrepreneurism" or "entrepreneurial success" is the capacity to lead processes of creative innovation. Investment guru, Peter Drucker, has defined innovation as "*change that creates a new dimension of performance*." The most successful program managers are entrepreneurial men and women in that they are always eagerly looking for opportunities to create new dimensions of performance. This requires a well-informed but also open, dynamic, and creative mind. The entrepreneurial spirit is captivated by an eagerness and

ability to exercise creativity. It enjoys the challenge of finding ways to accomplish goals more effectively. It finds joy in setting and accomplishing new and challenging goals. It is this quality of progress-generating creativeness that is what is most worthy of philanthropic investment.

Over the long-term, success of an endeavor typically will depend more on the richness of the ideas, creativity, and motivated talent rather than the specific level of funding support.

Progress-Generating Creativity Leads To Action

To realize an ambitious vision, “*perspiration equity*” often is vital. “Perspiration equity” is a way of describing the quality, tenacity, ambitiousness and investment of a person’s conviction and motivation pursuing the vision a project serves. It often has to do with entrepreneurial abilities to accomplish goals by communicating a vision effectively and persuasively to key change-makers.

In short, *entrepreneurially creative ideas matter most* when converted into action that has long term affect. The results of a philanthropic investment can be increased by factors *in excess of a hundred or a thousand* by a program manager who is creatively entrepreneurial.

Progress-Generating Creativity Can Be Measured

How can *entrepreneurial creativity* be fostered and encouraged in the context of non-profit activities? This document focuses on one important method involving the discipline of using *quantitative methods* to stimulate an entrepreneurial mind set where innovation and improvement is always welcome and can be recognized and rewarded.

The most useful aspect of developing the ability to evaluate success in a quantitative manner is the degree to which it can stimulate the initial formulation of a project by requiring a person to think creatively and “outside of the box” over an extended period of time. Often this discipline of extended initial planning will pay off handsomely over the long term. It has the potential to greatly expand the horizons of possibility.

Measurement Leads To More Progress

Another positive aspect of quantitatively evaluating success or failure is that it can provide compelling feedback. A person who is engaged in an activity that provides feedback in quantitative methods benefits from the opportunity to continuously hone and improve skills and performance. Feedback monitors performance and by doing so allows the components of excellence or success to be observed and improved upon. Feedback provides a necessary and vital basis for learning.

Quantitative performance measurement in an activity is important for dynamism and cost-effectiveness because it provides an objective basis of feedback. It provides structured

opportunities for creative learning and improvement based on a serious effort to understand the sources and dynamics of possible “success factors” in a thorough and objective manner.

Success is Multi-Dimensional

Success in most complex activities will have the property of *multidimensionality*, which means nothing more than that there are many dimensions of success. However, it is a vital concept in the quantitative evaluation of success. A common temptation or trap is to reduce success to one dimension. This can have catastrophic results because it can motivate behavior in the direction of that one dimension only. (As an example, 1,000 people in a lecture hall does not amount to a huge success if the targeted audience was to consist of academic professionals, and 95% of the audience were high school science students.)

Therefore a good rule of thumb is as follows:

If real success has many important dimensions, then efforts to quantify success should be developed with subtlety and sufficient multidimensionality.

An important corollary is:

Aspects of success which are relatively intangible (and therefore are difficult to measure) should not be ignored.

Part II. Some Useful Quantitative Metric Components

Here I offer a number of relatively simple quantitative metrics of efficiency and cost-effectiveness in nine different categories. These may be utilized, modified, supplemented and combined in developing multi-dimensional impact/cost-effectiveness analyses for specific programs. They are offered as examples of ways that relatively simple quantitative measures can be developed. The list is not meant to be exhaustive.

Metrics are listed under three headings: (i) leverage metrics; (ii) specific success metrics; and (iii) generic success metrics

(i). Leverage Metrics

1. Direct “financial leverage”

The ability to nourish a broad diversification of sources of project funding is a vital aspect of the long-term health of an organization that receives philanthropic grant support. It is of particular importance to avoid long-term dependency on one single philanthropic source. It also represents success in widely and strategically communicating excitement and value in an organizational mission. In any new form of philanthropic endeavor, a broad gauge of success is the degree to which the vision can be transmitted such that others appreciate the value of the objective to the degree of seriousness that they will back it with their resources.

Diversification of support may apply to a single project or to a portfolio of projects. A metric defined as “direct financial leverage”, (DFL), represents the degree of up-front financial “buy-in” on a project (or, alternately, on a portfolio of multiple projects) from other financial donors. It can be metricated as a ratio expressing the degree to which the funding of a project (or set of projects) is supported (or will be supported) by funds from sources other than provided by the main or ‘catalytic’ funder. Thus:

$$\text{DFL} = [\text{directly leveraged funds}] / [\text{total project expense}]$$

Example: Total Project expense: \$100,000
Core / Catalyst Funder: \$ 60,000
Other Donors: \$ 40,000

$$\begin{aligned}\text{DFL} &= [\text{$40,000}] / [\text{$100,000}] \\ &= 0.40 \\ &= 40\% \text{ direct financial leverage on the project}\end{aligned}$$

Alternately, DFL may be defined differently as an investment multiplier:

$$DFL = [\text{directly leveraged funds}] / [\text{Core funds}]$$

Example: (Same numbers as previous example)

$$\begin{aligned}(DFL)_{alt} &= [\$ 40,000] / [\$ 60,000] \\ &= 0.67 \\ &= 67\% \text{ direct financial leverage on the investment}\end{aligned}$$

2. Indirect “financial leverage”

Indirect financial leverage, IFL, represents the degree of downstream capitalization of new projects which have been catalyzed by an initial project. It can be metricated as a ratio expressing the degree to which an initial project capitalization has been utilized (or is planned to be utilized) to raise new project funds in the future. Thus:

$$IFL = [\text{downstream funding from other donors}] / [\text{initial project support}]$$

Example:

Initial project expense: \$100,000 from a core / catalyst funder
Downstream target project expense: \$ 1 million from other donors

$$\begin{aligned}IFL &= [\$ 1,000,000] / [\$ 100,000] \\ &= 10 \\ &= \text{tenfold financial multiplication of the initial investment}\end{aligned}$$

3. Program multiplication in competitions and by imitation

There are a number of immediate parameters which broadly can gauge the quality and impact of a program based on an open competitive selection process:

The “*selectivity ratio*,” SR, measures the acuity of a competition in terms of the ratio of winners to total applicants:

$$SR = [\text{number of total applicants}] / [\text{number of winners}]$$

Example: \$100,000 research prizes for book proposals to explore the constructive engagement between science and religion. (Program managed by Billy Grassie / PCRS)

$$\begin{aligned}\text{Total applicants:} &\quad \sim 350 \\ \text{Prizes awarded:} &\quad 7\end{aligned}$$

SR = ~ 50 = a selectivity of one winner out of fifty applicants.
(This is hyperselective and confers a very considerable honor on the winners)

As a rough rule of thumb, a healthy competition should have selectivity of at least four.

A second gauge of impact in a competition-based program is the degree to which the competition generates productivity amongst non-winners. For example, in the book proposals competition noted above, it likely will be the case that a substantial number of the proposed books will be written by non-winners in the competition. Thus a second factor is the "*project multiplication ratio*," PMR, may be defined as the ratio of unfunded projects completed with respect to the number of funded projects:

$$\text{PMR} = [\# \text{ of unfunded projects completed (or projected)}] / [\# \text{ funded projects}]$$

Thus, for example, if 14 books were to be written by non-prizewinners based on the initial stimulus of the competition, then we would have:

$$\begin{aligned}\text{PMR} &= [14] / [7] \\ &= 2\end{aligned}$$

Variants of this kind of metric may be developed as appropriate.

Another form of success may be generated by the *stimulation of imitation* due to the involvement of distinguished opinion leaders in a project. This aspect of the impact of a program is difficult to objectivize. However, as we have seen, it can be quite useful in strategic thinking to treat a difficult or impossible-to-measure variable as if it were in fact quantitatively tangible. As an example, consider the book prize program mentioned previously. If successful, this project will generate one or more highly outstanding books by distinguished thinkers of sufficient significance to provide a recognizable stimulus to future intellectual activity. Future books may be generated based on this stimulus. Consequently, a factor definable as the "*downstream imitative multiplication ratio*," DIMR, can be defined as a rough gauge of success:

$$\text{DIMR} = [\# \text{ of downstream imitative projects inspired}] / [\# \text{ funded projects}]$$

If, for example, two out of seven of the best books generated out of the books prize project were to stimulate a total of seven additional imitative or responsive books, then:

$$\begin{aligned}\text{DIMR} &= [7] / [7] \\ &= 1 \\ &= 100\% \text{ imitative multiplication}\end{aligned}$$

4. Vision leverage involving other donors / philanthropic trend-setting

To make a long-term difference in the world, a vision requires rationality, innovativeness, boldness, conviction, persuasiveness, moral force, and dogged “perspiration equity.” These are required to take hold and begin to flourish widely to the degree that other “agents of change” take on the vision to further it. Therefore an extremely important form of downstream success in developing new programs is “philanthropic trend setting.” If a program is highly successful and if its effects disseminate widely into the social order to the degree that a positive recognition of their value is widely appreciated, then other philanthropic organizations may develop similar programs. Again, this aspect of success is difficult to objectivize but can be very helpful in shaping strategic thinking even if the variables are quantitatively intangible. Thus, consider another productivity-factoring ratio, a “philanthropic trend setting yield ratio,” PTSYR, which might be defined as:

$$\text{PTSYR} = [\text{downstream capitalization by philanthropic trend setting}] / [\text{initial set of projects capitalization}]$$

This, by definition, is going to be a long-term measure of success and will be causally “entangled.” (That is, it will formally not be possible accurately to trace programmatic possible “effects” to one or more programmatic “causes.”) However, difficulties of measurement should never be allowed to deter the formation of realistic strategy. Therefore, to provide an example, consider a one-time expenditure of \$4 million on a novel program. Were this program to be sufficiently successful to set a trend that generates \$8 million in downstream support for similar programs by other philanthropies, then:

$$\begin{aligned}\text{PTSYR} &= [\$8 \text{ million}] / [\$4 \text{ million}] \\ &= 2 \\ &= 200\% \text{ yield leverage by philanthropic trend setting}\end{aligned}$$

(Note, that this ratio, in principle, could be tracked as a growth parameter.)

(ii) Success Metrics (Impact Measures Denominated by Cost)

To engage task of developing ways to evaluating the cost-effectiveness of specific programs, it is necessary to consider the degree to which causes and effects can be traced. If a program changes the world by generating impact or influence in a cause-effect relationship, then a basic question to ask is are the effects causally separable. An aspect of the impact of a specific program, *A*, is *causally separable* if and only if its effects can be seen to be clearly identifiable and distinct from the impacts of other programs *B*, *C*, etc.. Some forms of program impact are causally separable while others are not. For example, it is clear that causal separability holds if the awarding of a research grant for work on a certain topic generates published work on that topic by the winner of the grant. Similarly, if a prize is awarded to a certain person, and articles describing the award appear thereafter in the media, then this “publicity” is traceable directly to the prize program, -- it is causally traceable.

On the other hand, some of the most significant impacts of a program clearly are not causally separable, often because they feed into the general “reservoir” of opinion. Consider for example a question such as:

Is it prudent for high-level scientific organizations to invest resources to engage in thoughtful proactive dialog with religious leaders ?

To address opinion on such a question, one might, for example poll a random sampling of the membership of an elite scientific body, say, of the *National Academy of Sciences* as a time series with some periodicity over a decade. Let us suppose that during that time many programs may have been active which may in variously diverse ways have demonstrated in varying degrees that important aspects of useful and tangible progress can in fact be made when senior scientific leaders engage in thoughtful proactive dialog with religious leaders. Reflecting upon this example, it is quite clear that this measure could represent a very important and significant gauge of impact. However, it also is quite clear that this measure would not be causally separable in terms of the possibility of disentangling the respective individual components of impact generated by individual programs. Therefore it is obvious that many highly important aspects of program success are fundamentally diffuse. Often the most significant effects of programs can be hidden within the broad and complex entanglement of the world, within which many programmatic “causes” merge together into a broad generic “effect.” However, the fact that it may not be possible to measure something significant should never be excused to pretend that it is not significant.

In following, “specific” success measures with causal traceability are described first whereas “cumulate” success measures (which measure the accumulated contribution of many programmatic sources) are described second.

(iii). Specific Success Metrics (with causal traceability)

5. Monitoring research fields based on publication statistics

Perhaps the most common form of rough evaluation of productivity in academic research is to make a simple count of the number of research publications which a grant or program has produced. This method is admittedly very crude. It does not distinguish differences in the significance, comprehensiveness, quality, or impact of a research publication. (And, as many academics realize, publications counting tends to motivate researchers to publish more, smaller, and often ultimately not very significant papers than they otherwise might were the numerics of publication not so widely used as an index of productivity.) However, it can provide at least a crude mapping of the cost-effectiveness of a project.

The simplest metric gauging productivity in generating published research results is cost per (peer-reviewed) paper:

CPP = [total cost of project] / [number of published (or projected) papers]

Example: [\$150,000] / [5 papers] = \$30,000 / paper

It is useful to consider how more substantial measures of real impact can be devised. There is a vast difference between publishing a paper that few people will read and none will be influenced by and publishing an influential paper which many will read and be influenced by. In academic hiring, research productivity is often gauged by volume of citations available from the science citation index (or from the *index medicus* or other cumulate indices of reference citations in the scientific literature). Anyone who has worked within a research community knows that this form of gauge of productivity is far from an objective measure. (It also evolves in time and therefore can only appropriately be expressed as a temporal variable.) However, it does allow a second relatively simple gauge of performance in terms of cost per citation:

CPC = [total cost of project] / [number of citations (or projected) citations]

*(at some specified interval after the initiation of the project or publication of the results.)

Example: [\$150,000] / [300 citations (10 years after the initiation of the project)]

CPC_{10 yrs} = \$500 / citation

It should be obvious that use of such statistics in evaluating the potential cost-effectiveness of a project is problematic due to the extended interval required for the variable to evolve to a measure which represents its impact over any roughly appropriate timescale in which research results are published, considered, and cited within a research community. (In fact, some of the most profoundly important ideas may lay dormant unnoticed in the research literature for a decade or more before being recognized an important 'launching pad' for creative scientific thinking.) However, it should again be stressed that the value of going through a formal discipline of cost-effectiveness evaluation is not necessary to provide an evaluative basis for grantmaking. Rather, the primary virtue of engaging in this process is to encourage rigorous entrepreneurial strategic thinking.

Another way that citations are sometimes used is to demonstrate the significance of the *past performance* of a researcher. A scientist who has been active in research for a decade or more may take the opportunity to be evaluated in terms of *citation volume ranking*. This can be done either by lifetime cumulate or in some more recent interval, (for example over the past three years). Such measures provide a rough basis for evaluating academic distinction and can be utilized accordingly.

The output of important interdisciplinary work in science and religion often is published in book form rather than as research papers. A book is essentially a vehicle of communication. Therefore the simplest way to track the effectiveness of a book in its role a vehicle of communication is through the volume of its sales. (To be more accurate, one may also add-in

factors which can take into consideration sales of a highly technical book to a small but influential audience. Metrics covering “amplified” audiences will be described in the following section.)

One of the virtues of quantifying impact in terms of volume of sales is that it can focus the mind on the huge difference that can be made by working with agents, presses and editors who can make a major success of a book. The vast majority of academic books are published with press runs of less than 1,000 copies. However, some books in the broadly “academic” market can be edited, packaged and marketed for outreach in the ballpark of 50,000 copies and above. It is clear that the best science and religion books can compete in this upper echelon market. It can be very illuminating to think through the huge difference in impact that can be made by scaling-up the size of a book project’s audience by two orders of magnitude.

A simple gauge of the cost-effectiveness of a book project is the *cost per book sold*:

$$\text{CPBS} = [\text{project expense}] / [\text{number of books sold}]$$

Example: \$100,000 project; 25,000 books sold

$$\text{CPBS} = \$4 \text{ philanthropic subsidy} / \text{book sold}$$

It is obvious that the CPBS will represent a rather unattractive \$100 subsidy per book if the sales are at a sales volume for a typical academic book of only 1,000 books. Therefore using this metric, the cost-effectiveness of a philanthropic investment in a book project has much to do with whether or not the book is widely promoted and sells well or not. Often, academics are motivated more by the fact of having the opportunity simply to publish a book, rather than by the volume of published book sales. However, it can be a tremendous career (and income) booster to author a hot selling book. It also will assist the field (of science & religion) greatly if a number of authors in the field are able to become well-known through high volume books sales. This should be possible in a similar manner as is observed in sales of the many excellent books on science which sell widely in the high end popular market. The key is to link with prominent editors who have the strong backing of their marketing departments. A careful study of the various components and connections to make for a big seller can be illuminating for an aspiring writer with an entrepreneurial spirit.

6. Public communication effectiveness measures:

In this section we extend our metrical measures of *outreach to an audience* in terms of “minutes of attention” and “media impressions.” These measures are commonly used for quantifying projections in the advertising industry. They do not gauge impact or quality so much as simply the domain or extent of the communicative outreach using various forms of media. They also allow linkage with media demographics which filter for certain targeted sub-populations within the total audience. For advertisers, the especially sought after sub-populations may be consumers of various types (for example, expectant or new parents in the case of diaper

advertising). In the case of most of the types of projects the John Templeton Foundation supports, the preferred audiences are composed of various types of persons who are influential in some way and may be described as “opinion leaders.”

6.(i) “Media impressions”

The advertising industry has developed a relatively scientific approach to the analysis of cost-benefit in making decisions about advertising investments. For example, it has the ability to provide detailed quantitative estimates for advertisers of the number of media-to-media-viewer interactions that on average are likely to occur if advertising is placed in a certain location within a certain publication or show. These interactions are known as “impressions.” Advertising only has the opportunity to motivate a response in a person if that person is exposed to it, and the measure of “impressions” allows estimates of the number of individual impressions which on average will occur for a given placement venue. Based upon knowledge of the scale of impressions, it is then possible to metricate the quality of attractiveness or persuasiveness of an advertisement. This is done in terms of its fraction of conversion of the populations of people subject to impressions into a sub-population of purchasers of the product itself.

Thus, for example, if we consider media coverage of an event (such as an academic conference), then we can define a cost-effectiveness metric based on cost per impression:

$$\text{CPI} = [\text{cost of the project}] / [\text{sum total of media impressions generated by coverage}]$$

Example: \$1.5 million project. 60 million media impressions generated

$$\begin{aligned}\text{CPI} &= [\$1.5 \text{ million}] / [60 \text{ million}] \\ &= \$0.025 / \text{impression}\end{aligned}$$

Another way to quantify media coverage using advertising industry information is in terms of *equivalent value of advertising*:

$$\text{EVA} = [\text{sum total of media impressions}] \times [\text{average cost of equivalent advertising}]$$

For example, in the previous example, we had 60 million media impressions generated by a program expenditure of \$1.5 million. If the average cost of advertising to generate an equivalent volume of media impressions was \$0.25 / impression, then:

$\text{EVA} = \$15 \text{ million}$, or a 1000% return on the initial program investment.

6.(ii) “Opinion leader” outreach

In the process of seeking to transform well educated opinion on a topic, it is prudent to be sure to communicate in a focused and effective manner to a demographic subset of the population whose opinions are broadly leveraged with others due to their various and diverse roles as “opinion leaders.”

Consider the following diverse set of media ‘vehicles’: Sports Illustrated, the Harvard Business Review, People, The Atlantic, Red Herring, The Nation, Christianity Today, The New Republic, MTV, Scientific American, Tikkun, Foreign Affairs, NPR, The Wall Street Journal, The American Prospect, Esquire, the New York Review of Books, PBS, Mother Jones, Newsweek, Wired, the New York Times, and the Economist. All of these different forms of delivery of information not only have vastly differing audiences. They also have vastly different types of readerships / listenerships / viewerships.

An audience’s composition is broken down in terms of some kind of “demographic portfolio.” Typically the advertising industry obtains data on household income and consumption patterns through the kinds of polling instruments that we see frequently such as, for example, the fill-in forms which accompany new product warranty information. Though these measures are exceedingly rough, they do allow a form of impact filtering for the diverse subset in the audience composed on “opinion leaders.” Also, it is not necessary to utilize advertising industry data, but rather to make educated “guesstimates.” For example, one may guess that a reasonably large fraction (say 50% ?) of the readerships of *Science* and the *Harvard Business Review* will be composed of people who either have been trained, or are in the process of becoming trained, at some postgraduate level in science and in business respectively. Such publications have highly focused readerships which are different from those of *Time* or *Newsweek* or *US News & World Report*. Where the generic proportion of “opinion leaders” will be much lower (say 2% ?).

It also is possible to consider the typical or average time interval of attention that a media interaction generates. An article in *The Atlantic Monthly* may typically occupy fifteen minutes of reader attention, whereas an article in the *Science Times* may take two minutes. Factoring in both dimensionalities of “opinion leaders” and also of time, we may define a cost-effectiveness measure defined as “ cost per minute of opinion leader attention”:

$$\text{MOOLA} = [\text{total cost of project}] / \{[\text{audience scale}] [\text{opinion leader fraction}] [\text{average minutes of attention}]\}$$

(Note that the denominator typically will be a sum over all the media “hits” generated by the project.)

Example: \$100,000 project
 Media hit: Article in the Atlantic Monthly
 Circulation: 750,000
 Opinion leader fraction: ? 33%
 Average minutes of attention: 20

$$\begin{aligned}
 \text{MOOLA} &= [\$100,000] / \{[750,000] [0.33] [20]\} \\
 &= [\$100,000] / [5 \text{ million minutes of opinion leader attention}] \\
 &= \$0.02 / \text{minute of opinion leader attention}
 \end{aligned}$$

An important phenomenon to consider in strategic thinking is *impact amplification* via the so-called “media food chain effect.” Media people often obtain ideas for stories in their outlets by reading in higher-level sources of information. For example, an article in the *New England Journal of Medicine* may be followed by an article in *The New Republic* which in turn may be followed by one or more articles in the *New York Times* which may provide ideas for television coverage by the major channels. Therefore developing media “hits” in high-level, small circulation, “opinion-leading” journals of research and opinion can have a strong amplification-leverage effect through the media food chain. For different forms of information, there will be corresponding high-level, high-leverage outlets. (For example, in biology, technical articles appearing in *Science* or *Nature* can have highly leveraged impact.) Media information tracking services such as the “NEXIS” database can be used to track the coverage of a news item in the in-print media. Other sources are available to track coverage on radio and television.

7. Monitoring transformation of opinion via polling

Monitoring impressions or minutes of attention is a representation of activity on the “transmission” side of a communication effort. The vital compliment to success on the transmission side in any communicative enterprise is the “reception” side. Has the message been heard? Has it been clearly and convincingly represented? Has it been persuasive? Has it influenced people’s thinking? Has it generated a decisive shift in the thinking of a majority of “opinion leaders”? Such questions can only be answered by checking the reception side of the communicative process.

The typical methodology for accessing opinion is by opinion sampling by means of polling. Consider a university-based project which involves a series of public lectures on basic aspects of the field of science and religion. One way to access the reception of the series would be to do a “before & after” poll of opinion in certain sectors of the audience. For example, let us consider the science faculty as the target group. An interesting simple poll might in part be expressed in terms of Ian Barbour’s fourfold typology, asking faculty members to place themselves within one of the four opinion groups on the following thesis:

The proper or natural relationship between science and religion is:

(Answer with one or more selections, marked 1st, 2nd, etc., in order of intensity of agreement.)

- A. Fundamental conflict
- B. Separation into non-conflicting, non-overlapping domains
- C. A fusion based on determining truth / reality

D. Mutual two-way dialog leading to:

- (i) Better mutual understanding with widespread but respectful disagreement
- (ii) Better mutual understanding with resolution of some conflict issues
- (iii) Better mutual understanding with resolution of many conflict issues
- (iv) Better mutual understanding with resolution of most conflict issues
- (v) Better mutual understanding leading to separation into
 - non-conflicting, non-overlapping domains.
- (vi) Better mutual understanding leading to complementarity / symbiosis
- (vii) Better mutual understanding leading to convergence & synthesis

Another interesting question might be one such as:

As a prospective interdisciplinary field of discourse, "science & religion" :

(Answer with one or more selections, marked 1st, 2nd, etc., in order of intensity of agreement.)

- A. is not to be taken seriously
- B. is improper for consideration as a coherent academic field
- C. has a long way to go to demonstrate its value and coherence
- D. is an interesting concept and potentially promising
- E. shows the signs of a quite promising new development
- F. has impressed me substantially so that I am very interested
- G. addresses a fundamental need and is absolutely vital for the future of intellectual life

To determine success in communicating a message, one could use these and many other carefully crafted polling questions to track transformation of opinion in sectors of a university community in order to measure the impact of a program. It is also possible to track attention through questions such as:

“Has the special series of lectures caused you to read any books related to it ?”

“How much time would you estimate that you have invested in this reading ?”

“ Do you consider this investment of your time to have been:

- wasted ?
- roughly average relative to other activities ?
- moderately exciting and worthwhile relative to other activities ?
- highly worthwhile relative to other activities ?
- vital and transformative relative to other activities ?

8. Prizes and other honors

Philanthropic initiatives which confer honors in open and objective processes pursue an

indirect strategy which seeks to promote progress in a field by offering broad public recognition of some aspect of excellence. This may be of an important publication such as a book or an essay or research paper or it may cover the accomplishment of a particularly gifted person over the work of a lifetime. It is often generically difficult to measure the impact and cost-effectiveness of prizes and other honors because their long-term effects are generically diffuse and intangible. It is also mostly a mistaken notion to imagine that highly gifted scientists and scholars can be motivated by external incentives such as prizes. Motivation for such people typically is deeply internalized. Specific objectives that honors can accomplish, however, may include:

- (i) contributing towards the legitimization of a new and controversial field
- (ii) massively stimulate book sales and influence opinion accordingly
- (iii) contribute significant momentum to propel a young career forward
- (iv) open up public platforms for strategic communication
- (v) stimulate new philanthropic support

Here we will consider the second example (book sales) in terms of a strategically formulated prize program to recognize outstanding books. If a prize is utilized strategically in conjunction with a Press's marketing campaign, the prize program can be evaluated for cost-effectiveness by linking its expenditure to an enhancement in book sales generated by the utilization of the prize in the marketing effort for the book. Because academic book sales are typically not very substantial (< 2000 copies), we can ignore the "baseline" and define the "book prize cost-effectiveness" as follows. For simplicity we will consider a program which confers a single prize. Slightly more complicated formulii can be devised for multi-prize programs.

$$\text{BPE} = [\text{cost of program}] / \{[\text{book sales}] [\text{opinion leader readership fraction}] [\text{estimated average reading time invested by the average buyer}]\}$$

Example:

Program cost:	\$150,000
Book sales:	50,000
Opinion leader readership fraction:	0.5
Estimated average reading time:	200 minutes
[Minutes of opinion leader attention:	5 million]

$$\text{BPE} = \$0.03 / \text{minute of opinion leader attention}$$

Another way to leverage both book sales and influence opinion would be if a prepublication article (a summary or a reworked chapter) were placed in a widely read high-end journal of opinion such as *The Atlantic Monthly* or *The New Yorker*. Similarly, major reviews will impact sales as well as generate substantial scoring in terms of minutes of opinion leader attention. For example, consider a case with the same numbers as in the previous example, but with a chapter placement in *The Atlantic Monthly* generating, say:

Readership:	500,000
Opinion leader fraction:	0.5
Estimated average reading time:	10

This addition will generate an additional 2.5 million minutes of opinion leader attention and increase the cost-effectiveness of the project by 50% to an efficiency of better than \$0.02 / minute.

Conclusion:

The most important aspect of making such calculations is that it focuses strategic thinking on ways to make a program very highly successful. For example, in the case of this book prize program, key strategic success factors would be:

- (i) identify strategic approaches which are fruitful/highly leveraged and those which are not. Focus all activity and resources only on the fruitful / highly leveraged approaches and perfect them.
- (ii) develop the program in close linkage with interested and favorable editors who have the ability to catalyze a highly effective marketing effort utilizing the prize.
- (iii) advise the authors on how to work closely with such “entrepreneurial” editors.
- (iv) help the authors to link with dynamo literary agents (e.g., John Brockman in the sciences)
- (v) develop a program ethos which encourages entrepreneurial success and transmits key aspects of knowledge in terms of networking and connections to help promising authors to have the opportunity to compete in the literary public square.

(iv). Generic Success Metrics (without causal traceability)

The impacts of specific programs are *causally separable* in terms of their outcomes in the world if the effects, A*, B*, and C*, etc., of programs A, B, C, etc., could be observed in the world as being identifiably distinctive and independent of each other. It is clear that the assumption of causal separability cannot be sustained in many of the most important aspects of transformation of opinion where an “isolated laboratory” condition preserving cause and effect relationships for a specific program cannot hold. This raises a very interesting issue. It has been stated several times previously that the most important outcome of a process of detailed quantitative cost-effectiveness analysis is not to develop exact and practically realizable measurement strategies, but rather to stimulate entrepreneurial strategic thinking. How can this kind of stimulation best be encouraged ? Being successful within the terms we are considering means developing strengths and learning how to communicate a message or vision based on those strengths persuasively into an expanding and influential community of discourse. To

envision success in these terms requires habits of thinking which are both ambitious and large-scale. Therefore it is vital not to limit one's view in strategic thinking only to situations where cause and effect are closely and locally connected. A vital "big picture" aspect of strategic thinking in this regard is "vision mainstreaming."

9. Vision mainstreaming

The successful evolution of a vision which generates a "philanthropic trend" is to mature by a process of "mainstreaming." Mainstreaming is a term to describe a process of transformation in perception whereby an issue or a movement is transformed from what seems an odd, novel and controversial notion to one which is broadly appreciated as having clear merit either in the society as a whole, or at least amongst key influential sectors of intellectual commentators and decision-making 'elites.' For a movement to be successful in mainstreaming its general vision, the creative leaders who are developing the movement must think with strategic care and seriousness about how to be successful in accomplishing such a transformation in a practical and realistic manner. (And in any new academic field, the core of the success must be due to the significance and significance of the research and in the innovativeness, quality, quantity, diversity and persuasiveness of its creative productivity, ---but this is far from the whole story !) Towards this end, it can be helpful to think through what kinds of "markers" might be available to gauge progress in the direction of mainstreaming.

In following, we have suggested four distinct perspectives defined in terms of three different "sampling success ratios" focused respectively on three facets of transformation:

- (a) "Marker group opinion"
- (b) "Institutionalization"
- (c) "Financial support diversification"

Simple sampling success ratio metrics for each of these three facets might be defined as follows:

- (a) MGO = fraction of a marker group responding positively to a question addressing a basic point

Example:

Marker Group: Deans of departments of biology at major research universities in the United States

Question: Can a biologist be an intellectually honest and be a philosophical theist while simultaneously possessing a clear understanding of evolutionary biology ?

Hypothetical time series result:

Year 2000: 25% responding yes
Year 2005: 50% responding yes
Year 2010: 80% responding yes

(This is provided as an example only and NOT to imply that the answer to this question is a matter of clear agreement in the field of science and religion.)

(b) There are various factors which could be considered as measures of success in institutionalizing a vision. In the case of the nascent field of “science and religion” we might consider the following ten items:

- (i) Are one or more courses offered in the subject are ?
- (ii) Are there one or more active local discussion groups or societies ?
- (iii) Are there one or more professorial appointments in the field broadly ?
- (iv) Are appropriate periodicals on display in appropriate libraries ?
- (v) Do institutional library holdings include important books in the field ?
- (vi) Does the intellectual ethos of the institution incorporate the field broadly ?
- (vii) Is the development office aware of the field and active in recruiting alumni donations to support it ?
- (viii) Do external experts recognize strength in the institution in the field ?
- (ix) Have institutional publications covered events / advances in the field ?
- (x) Is the institutional leadership (administration, trustees, academic deans, etc) aware of the field and any local activity / interest / strength in it.

By developing instruments to evaluate these and other questions, it will be possible to develop measures of “institutionalization” by means of some form of institutional success score, ISS, which can be tracked over time.

(c) The final factor to be considered is *financial support diversification*. Overall, this financial aspect of mainstreaming can be monitored by two simple variables:

- (i) NP = “number of players” is the number of active significant philanthropic participants in support for the field.
- (ii) FDR = “financial diversification ratio”
= [sum of total philanthropic activity] / [Lead donor activity]

Both variables should be monitored in time series.

Part III. A Few Working Examples

Example #1: A heuristic comparison in a maximal simple case for a single lecture

First we consider a simple illustrative example to communicate the idea of the power of creative thinking and action. For heuristic purposes, a simple ‘success equation’ with four independent variables can be imagined as:

$$\text{SUCCESS OUTCOMES} \sim (\text{Money}) (\text{Talent}) (\text{Motivation})^P$$

where the exponential power factor, “P”, represents the open opportunity for multiplying outcomes drastically based on the *power of creative ideas* to utilize money, talent and motivation in innovative productive ways. (Note that the concept of productivity here is generalized as *success outcomes*. This is not specifically a financial measure. In an intellectual or broadly cultural endeavor, success may be denominated more in terms of cultural impact than in any specific financial measure such as new funds raised for the continuation of a project.) In fact, it is easily possible for the third factor, $[(\text{Motivation})^P]$, to be *as large as a thousand*. For want of a better term, let us refer to this factor as “*motivated creativity*.” (Essentially, it is a measure of what we mean by “*entrepreneurism*.”) In plain English the equation means that the success or effectiveness of an expenditure $[(\text{Money})]$, provided to a talented person or team $[(\text{Talent})]$, can be multiplied by as much as a thousand times by strategically utilized *motivated creativity* $[(\text{Motivation})^P]$. Thus, if it were necessary to rank the relative importance of the three factors involved in the success equation, then the most powerful one by far is the last one: *motivated creativity*.

George Gilder once described the computer as the combination of sand (silicon-based hardware circuitry) plus evanescent ideas (programming software), generating tremendous utility and wealth. The basic idea in the present context is similar: *creative ideas are free and can have immense power* to leverage the impact of the combination of talented leadership, intense motivation, and financial resources. Therefore what makes a philanthropic investment most worthwhile, both for the philanthropist as well as for the recipient, is the quality and vigor of the motivated creativity which goes into the development and execution of a project.

Consider a very simple example to illustrate his point. For simplicity we describe impact in terms of one dimension of success. This will be quantified specifically as leverage of additional new financial resources. It will demonstrate the quantitative aspect of the power of ideas in specifically financial terms. Other “dimensions” of success will not be considered. It is left to the reader to add them.

Consider a very simple ‘program’ consisting of a single distinguished university lecture in the area of science and theology and costing \$2,000. The lecture has the usual purpose. It will bring a distinguished speaker to the campus to speak to an audience about the relationship between science and religion. The immediate aim will be to encourage and enlighten interested

people to realize that a rather more promising perspective exists. The money will be spent to cover the speaker's honorarium, plus travel and upkeep costs, as well as the expenses of advertising, and a hospitality dinner to link the speaker with a few specially selected guests.

In the typical mode, (case "A"), the event would be advertised and occur broadly as planned. The message would be heard by an assembled group of interested persons who would have responded to the advertising by choosing to attend the lecture. Then the speaker would return home. This could be considered quite "successful" in various dimensions of success. But as an example let us consider that dimension which is the most vital one strategically. This, in my view, is long-term institutionalization.

Consider an alternate scenario, (case "B"), involving additional ideas and no extra money. In this case the lecture planner acts boldly as a strategic entrepreneur. The situation evolves as follows:

1. He or she prepares a two page memo which outlines the new state of affairs in the field of science and religion. The memo clearly and succinctly summarizes the growth of the field, its interdisciplinary value, its future possibilities, its research potential, and the way that it addresses very strong interests and needs of students, and generally would help the college or university to exhibit distinctive leadership.

2. He or she arranges to have lunch with one or more deans to discuss the memo and open up conversation on the key issues raised in it.

3. He or she arranges to have lunch with the director of the development office of the College in order to discuss the memo and possibilities for new fund-raising strategies for the institution. Considerable attention is given to the fact that many religious donors lack enthusiasm for giving to the College because they feel alienated by the rather strong anti-religious bias amongst the Faculty.

4. He or she primes the speaker carefully that the lecture will be used as a first gambit to raise resources to endow a new program at the college focused on science and religion.

5. As a result of these contacts, when the lecture occurs, several deans attend along with two interested trustees and three potential alumni donors who have been identified and invited by the development office. The president of the college is unable to attend the lecture. However, at the special dinner hosted by the development office for the VIP's, the president meets the speaker and is much impressed. Two of the possible donors clearly are quite enthusiastic.

6. Two years later, the host of the lecture (now tenured) publicly thanks both donors in the opening ceremonies for the new endowed professorial chair in the newly created *Center for Research in Science and Religion* which is jointly hosted by the school of religion and the faculty of sciences. He or she assists various journalists with their articles describing the significance of this new \$2 million initiative and the visionary generosity of the two donors. Credit also is given to the visiting lecturer whose initial lecture (cost: \$2,000) provided the stimulus which helped to get the vision rolling towards this very pleasant day. The President makes inspiring remarks.

The chief development officer is beaming. The donors are thrilled. The development officer asks if it might be possible to have lunch next Wednesday. Well, life is busy and exciting these days, but yes, that might be all right.

7. The lecture host posts a letter to the Templeton Foundation. It notes with well-deserved pride that the initial investment of \$2,000 has been multiplied by a factor of 1,000. It includes a description of the new Center. The letter concludes by wondering, ---might the Foundation be interested to consider supporting a new research project at the new Center? The host will be passing through Philadelphia the following month. Lunch?

Formally, we now have the ability to use our simple heuristic success equation:

$$\text{SUCCESS OUTCOMES} \sim (\text{Money}) (\text{Talent}) (\text{Motivation})^P$$

to measure the power of motivated creativity by the *method of comparison*, i.e., by comparing cases "A" and "B". The example has been chosen to demonstrate a $\times 1000$ effect. However, real metrication is somewhat more complicated than the *prima facie* case, so it will be useful to follow the details. In both cases, the input capital (\$2,000) is identical. For the sake of argument, let us also consider that the intrinsic "talent" or ability of the manager is also identical. To make this clear, we might even assume that the manager in both cases is the same person. However, in case "B" this person has decided to strive for extraordinary goals and to take unfamiliar steps and invest time in pursuing them. We have assumed, therefore, that the key difference between cases "A" and "B" is due to the difference solely in motivated creativity, [$(\text{Motivation})^P$].

Mathematically, we have a small but not uninteresting challenge which has to do with what can be called the "metrication of a baseline." Because case "B" has an easy-to-measure large-scale success outcome (\$2,000,000), we will evaluate the equation in terms of dollars on both sides of the equation. However, case "A" does not generate any new donated monies at all, so the performance ratio is formally infinite. How then can the value of case "A" be evaluated in terms of dollars in order to allow a comparison with case "B"? It of course would be inaccurate to say that case "A" accomplishes nothing, or that we should account its success outcome as zero because it has not leveraged new donor dollars. For simplicity, what we can do is to apply what is called a "normalization." By normalization we assign the cost-effectiveness value in dollars in terms of an assumption of "cost-based baseline value." In other words, we will link or assign a "normal baseline" value of unity to the non-financial product, $(\text{Talent}) (\text{Motivation})^P$. By doing so for case "A" we then have:

$$[\text{SUCCESS OUTCOMES}]_{\text{case A}} \sim (\text{Money}) (1) = \$2000$$

Once we have made this assumption, then we can see that, as an approximation, the factor we have identified as *motivated creativity* in case "B" is equal to an effectiveness multiplier of one thousand:

$$[(\text{Motivation})^P]_{\text{case B}} \sim (\$2,000,000 / \$2,000) = 1000$$

In this way we can *begin* to see formally how the power of the *motivated creativity* of the program manager can *massively leverage* an initial investment in financial terms.

Summary: The simple lecture example given above of course describes an extraordinary success story in case “B”. Nonetheless, the success of case “B” does not seem in any way to be fundamentally unrealistic. Success can and does work in such ways. The difference between the “typical” situation and the untypical situation directed by the strategic entrepreneur is due to an added combination of creative ideas and motivation in the actions of that person. That combination requires vision as well as what could be called “hussle and hassle,” but it adds essentially no extra cost. As we have seen, vision-driven motivated creativity can multiply the financial cost-effectiveness of the project by a factor of one thousand. It also multiplies the benefit to the lecture host in ways that may not be specifically quantifiable. Nonetheless they are real and substantial and surely amount at the very least to very strong satisfaction. The main point has been to stress the intrinsic value of vision and creative thinking. *The creative entrepreneurial mind has power which is far greater than the intrinsic power of money by itself.*

FREEDOM PROJECT - ACADEMIC COURSE COMPETITION

PROGRAM AND COST-EFFECTIVENESS EVALUATION

Six basic measurable factors will be utilized to provide metrics to quantify and encourage progress and cost-effectiveness:

1) Audience Impact Scale	An estimate of the cost per hour of reaching the project's audience. Scaled for each course and cumulated for the program as a whole.
2) Intrinsic quality.	A rated measure of the quality of the courses funded by the <i>Freedom Project</i> .
3) Long-term impact.	An empirical measure of the longevity of the catalyst effect of <i>Freedom Project</i> funding.
4) Partnership cost leverage	A cumulative ratio of the ability of the Project to attract partner "leverage" funding.
5) Long-Term Institutional Cost Leverage	Ratio of donor dollars institutionalized on the basis of JTF venture capital "seed" investment.
6) Factored Influence Cost	The sum of the weighted subscore of the preceding three factors.

1) "Audience Impact Scale" is a time-factored cost-effectiveness metric based on the concept of program success linked to outreach to an audience. Here the basic challenge is to utilize entrepreneurial opportunities to expand the (time-factored) audience for the project by means of special events such as university-wide lectures, debates and special seminars. The metric is defined for a single course as a cost-per-hour: (program expense)/(total audience impact hours). The denominator is defined as the sum of the following factors:

- i. # of students times hour of involvement
- ii. Additional # of extra audience hours for special events with amplification factors for opinion leaders
- iii. Additional number of media impact hours based on major media coverage in newsprint, magazines, TV and radio.

2) In order to determine that the quality of applications is not declining from year to year, grant-winning proposals will undergo outside review by an independent distinguished panel of referees who will rank on a scale of one to five in order to quantify the following: the caliber and distinction of the faculty in terms of teaching and research capabilities; the quality of the reading list of each proposal; the innovativeness of the course and its materials and pedagogy. The cumulative score for each proposal will be calculated and comparisons made at the culmination of each year's cycle via the following formula:

Where: A= Faculty Rank scaled from 1 to 5
B= Quality Rank scaled from 1 to 5
C= Innovativeness Rank scaled from 1 to 5

D= Number of students enrolled per course scaled from 1 to 5

E= Level of students enrolled scaled from 1 to 5

S= Average Score

$$S = \frac{(A)+(B)+(C)+(D)+(E)}{5}$$

The base line will be (Q) as calculated for the first year of the program. It is reasonable to expect that (Q) will improve by a minimum of 12% after in its second year, and 15% in following years.

- 3) One measure of success can be easily measured by determining if *Freedom Project* funded courses remain in a part of an institution's curriculum after *Freedom Project* funding ceases, and for how long. Ideally, the mission of the *Freedom Project* will be met when institutions choose to teach these courses without *Freedom Project* funding. Staff will monitor the continuation of *Freedom Project* courses each year, and adopt the following evaluative tool to determine success in this area:

Where: f = Amount of *Freedom Project* Funds per individual course

i = Amount of internal institutional funds in real cash per individual course

E = Expenditure success "buy-in"ratio

Then:

$$E = \frac{i}{f + i}$$

It is fully expected that (E) will improve by 10% after the first year of the program and 25% within three years.

4) Another measure of success of the *Freedom Project* will be the ratio, R, of outside partner funding to the level of John Templeton Foundation support.

Where: p = Partner funds
 t = Templeton funds
 $\frac{p}{p+t} \times 100 = R\%$

The program will be successful if (R) increases by 10% each year for the first three years, and 15% each following year until John Templeton funds are no longer necessary to maintain the program.

5) “Long-Term Institutional Cost Leverage” is defined as the ratio of long-term monies invested by donors for their host institutions (D:) over the amount of JTF venture seed capital (V:). Success factors can be determined for each prize awarded. These then can be cumulated for the program as a whole and sub-defined by the year of the initial prize award.

6) Finally, the factors as outlined in above equations 1, 2, and 3 will be weighted and summed to calculate the overall score for the program’s cost-effectiveness as follows:

$$S = Aw_A + Bw_B + Cw_C \dots$$

Additionally, the *Freedom Project* will monitor its progress by evaluating the impact of the program on students, academic leaders, business people, public policy leaders, and others. In order to do this, program staff will calculate the minutes of attention paid to the program’s core mission by members of these various groups.

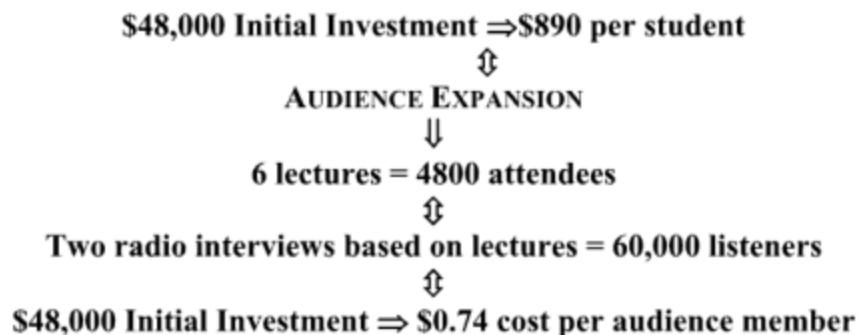
AUDIENCE IMPACT COST-EFFECTIVENESS

In addition to the measurable variables of cost-effectiveness for the *Freedom Project*, there are unmeasurable factors that will expand the influence of the program without increasing program costs. The following scenarios demonstrate how this program might be used effectively to leverage funding dollars and expand their impact.

I. This scenario is based on the actual Boston University course that ran from September 1998 through May of 1999:

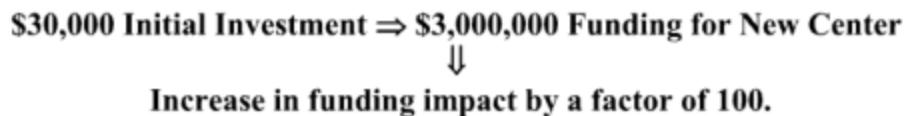
The *Freedom Project* gave two professors at Boston University \$48,000 to teach a year-long course to 25 students. On its surface, these numbers represent a very high cost-per-student ratio. However, the program’s influence and message did not just remain in the classroom. The professors brought in distinguished, nationally-known speakers,

including Gary Becker, John Grey, and Eugene Rivers. These speakers drew an average audience of approximately 800 people per lecture for six lectures. Further, two of the speakers gave radio interviews in conjunction with their lectures on Boston's public radio station, reaching approximately 30,000 listeners. The chancellor of the University, John Silber, attended three of the lectures and communicated his pleasure with the course and its impact on the University community to *Freedom Project* staff and to the University's Board of Trustees. Therefore, in the case of Boston University, the *Freedom Project*'s initial investment of \$48,000 over the course of one year had an actual audience impact far greater than the immediate impact on the 25 students in the course.



II. The following scenario is hypothetical based on a course proposal to be submitted in the next competition:

Professor Robert Barro submits a proposal to receive funding for a *Freedom Project* course at Harvard University for the spring semester of 2001. He competes successfully, and receives \$30,000. He teaches a very successful course, which receives notice from the Harvard board of Trustees and many Harvard alumni as a result of an article about the program in the Harvard University newspaper, a story in the Boston Globe, and an op-ed placed by Professor Barro in the Wall Street Journal. A wealthy Harvard alumnus learns of Professors Barro's work in the *Freedom Project*, and decides to give a substantial gift of \$3,000,000 to Professor Barro to found a new center to quantitatively study the effects of freedom and free markets on human progress.



The Freedom Project will encourage all faculty competitors to seek to find innovative ways to increase the audience for the Project's message without increasing funding dollars. These scenarios represent only two possibilities; many more exist.

Symposium Webcasting

First, we need to recognize the dramatic realignment of media delivery going on today. There are 250 million Internet users worldwide, up from 50 million in 1996. The Internet has created a renaissance for reading and writing. It is displacing and exceeding television viewing hours for many targeted groups, particularly in education and business audiences. College students are more likely to use the Internet to conduct research than the campus library and are more likely to download music from the Internet than to purchase CDs in stores. The most dramatic example of this revolution in the media was when America Online, a ten-year old Internet start-up company, bought Time-Warner, the world's largest media conglomerate.

There is a convergence of television, radio, print, library, bookstore, newsstand, postal service, fax and telephone in a single digital media which is increasingly available on demand, anywhere and anytime. The trend is towards the seamless interaction of text, illustration, audio, and video content with multiple avenues for consumer interaction. The webcast of the "Extended Life, Eternal Life" Symposium is an important experiment for the Foundation and Meta.

The question is how many viewers can we reach and what is the cost-effectiveness.

We will be broadcasting in the format with the largest-user base, RealPlayer. There are 100 million potential viewers who have downloaded the RealPlayer software. That number is growing by 200,000 per day. The question is how do we reach our target audience to let them know about this opportunity.

The Meta Lists can immediately reach an audience of 3000 potential viewers with a high-level of interest in the field of science and religion. There are similar listservers in the field of bioethics, biology, religious studies, and related disciplines to which announcements can be sent. The press release on email will be circulated and re-circulated on the Internet in the two weeks prior to the broadcast and later again when the conference proceedings come online.

The target audiences are:

- Physicians, Nurses, and Other Health Care Professionals;
- Theologians, Philosophers, and Ethicists;
- Biologists, Microbiologists, Geneticists, and Chemists;
- Professionals within the Science and Technology Industry;
- Clergy and Religious Leaders; and
- News Media and Opinion Leaders.

Editors at Read Guide, the "TV Guide" for Internet broadcasts, have already agreed to list this webcast event on the SciTech and Spirituality pages with 400 to 1000 visits each day. If click through builds in advance of the broadcast, the event will be promoted, perhaps even on to the main page, which is one of the top ten sites on the Internet. Similarly featured listings in advance on the home pages of the Templeton Foundation and the Center for Bioethics will help promote the event with visibility measured in tens of thousands per week.

It is difficult to make estimates about the number of people who might log on for the debate during the live broadcast, but we can conservatively project 2000 and ambitiously hope for ten times that number. Over twelve months after the event the archives might duplicate those numbers for both the debate and the rest of the conference.

The live webcast of the debate and archived webcast of the entire conference is estimated to cost \$12,800. We may actually come in under this budget, but as a first time experiment we need some flexibility.

In the first chart, we estimate conservatively that we can reach another 4000 people with the webcast and are assuming that each person would spend an average of two hours viewing the program. The cost effectiveness comes out at \$3.20 per person or \$0.027 per minute (see chart below).

Conservative Estimate of Audience					
		Expanded Audience	Cost per person	120 minute estimate of average viewing time	Cost per person per minute
Webcast	\$12,800				
Live debate on 3/5		2,000		240,000	
On Demand 1 st Year		2,000		240,000	
TOTAL		4,000	\$3.20	480,000	\$0.027

In the second scenario, which is more ambitious, we estimate an audience of 20,000 people for the webcast and assume that each person would spend an average of two hours viewing the program. The cost effectiveness comes out to \$0.64 per person or \$0.005 per minute (see chart below).

Ambitious Estimate of Audience					
		Expanded Audience	Cost per person	120 minute estimate of average viewing time	Cost per person per minute
Webcast	\$12,800				
Live debate on 3/5		10,000		1,200,000	
On Demand 1 st Year		10,000		1,200,000	
TOTAL		20,000	\$0.64	2,400,000	\$0.005

In the final scenario, in which we assume wild but obtainable potentials, we estimate an audience of 100,000 people for the webcast and assume again that each person would spend an average of two hours viewing the program. The cost effectiveness comes out to \$0.13 per person or \$0.001 per minute (see chart below).

Potential Estimate of Audience					
		Expanded Audience	Cost per person	120 minute estimate of average viewing time	Cost per person per minute
Webcast	\$12,800				
Live debate on 3/5		50,000		6,000,000	
On Demand 1 st Year		50,000		6,000,000	
TOTAL		100,000	\$0.13	12,000,000	\$0.001

In all of these scenarios – conservative, ambitious, and potential – it is important to remember that we are leveraging a quality event already planned and are multiplying the intellectual and spiritual impact of the conference.

Speaker Bureau

In the most recent Speakers Bureau program (11/1/97 – 2/29/00), ABC CORP. reached a combined audience of at least 28,700 people through the presentation of 307 lectures. This audience number is a conservative estimate, as audience totals were not reported by some of our speakers for some of their lectures and thus could not be included in the final total. On a quantitative basis, this outreach resulted in a cost of \$1,675 per lecture, and \$17.92 per audience member (Total grant of \$514,364 / 307 lectures = \$1,675.45; Total grant of \$514,364 / 28,700 total audience = \$17.92.20). It is ABC CORP.'s goal to reduce its per-person cost to less than \$12.00 by the end of this two-year renewal program by expanding outreach to more audience members through Internet lectures and media attention, as well as increasing the qualitative impact of the program.

Quantitative Impact

As stated above, the previous cost of the Speakers Bureau program for the last two years was \$17.92 per audience member. Again, it is ABC CORP.'s goal to reduce this cost to less than \$12.00 per person by the end of this program. ABC CORP. hopes to reach a similar number of people during the course of this program as it did in the last two years (28,700), although it should be emphasized that depending on the number of national meetings at which presentations are made, where attendance may be less but impact is usually greater, these totals may be a challenge to achieve. With a significant reduction in costs in this renewal, if ABC CORP.'s speakers only reach the same total of 28,700 people during the next two years, the cost per audience member would be reduced to \$14.56 (total grant of \$417,817 / 28,700 people - \$14.46 per person). However, with the addition of virtual lectures of ABC CORP.'s website and the addition of those reached via media outreach, the cost could be reduced even more.

As described previously, our estimate of ABC CORP.'s Internet audience could approach 2,400 people during the course of two years. However, this number may be considerably higher.

Two-Year Estimate:	280 lectures x 100 attendees	28,000
	Virtual Lectures	2,400
	Total	30,400

Thus, with the addition of Internet audio and video streams, as well as media outreach, the quantitative measure of cost-effectiveness would be reduced even further, to \$13.74 per person (i.e. total grant of \$417,817 / 30,400 people = \$13.74 per person). ABC CORP.'s speakers are encouraged to present multiple lectures at each venue whenever possible, and host organizations are encouraged to create additional opportunities for our speakers to present. For example, at a recent venue, the lecturer presented two lectures, conducted two discussion periods, and met with selected leaders for two meals and discussion. Because the speaker is already on site, adding additional lectures does not increase cost but does increase audience size and impact, thus increasing cost-effectiveness of the program.

Media attention can greatly increase the number of people who are exposed to research findings on spirituality and health, reaching the community and quite probably reaching many who are learning about this information for the first time. We have previously mentioned a goal of 70 media hits per year, and can reasonably estimate that 25-50% of the circulation total for a particular media outlet will be reached by these mentions in newspapers, magazines, and television/radio programs, as not everyone who subscribes to a newspaper reads every story. ABC CORP. plans to report the results of its media outreach efforts related to the Speakers Bureau program, and will report the circulation for each outlet that carries a story on spirituality and health featuring one of our speakers.

Qualitative Impact

Using the audience size information as discussed above, ABC CORP. will then analyze and report to the Foundation the qualitative impact of the program. Using a simple, three-point rating scale for lecture audiences will allow ABC CORP. to determine the level of qualitative impact the Speakers Bureau is having. This formula is an initial step to assessing qualitative impact, whereas in future programs we will build upon this formula based on what is learned from it. The following rating scale will be used to determine qualitative impact:

Audience Type	Points
National professional meetings, national conferences, public policy institutes, federal government agencies	3
Hospitals/medical centers, universities/medical schools, foundations	2
Regional meetings, churches/religious organizations, local meetings, other presentations	1

In order to calculate the qualitative impact, the audience size for each type of contact will be weighted based on these ratings. For example, an audience of 100 professionals attending a conference at a medical center (with a weight of 2) would be calculated as an audience of 200 (100 people x rating of 2), according to this formula. Ratings of live lectures will be based on the type of lecture rather than the actual audience makeup, as actual audience demographics can be difficult, and in some cases, impossible to obtain. Audience measures for virtual lectures and media attention will still be based solely on the quantitative measures as previously discussed.

For example, in the most recent Speakers Bureau program, ABC CORP. speakers delivered 307 lectures at 177 sites, reaching over 28,700 people. The quantitative breakdown of these lectures is as follows:

Types of meetings	Total Audience	Points/Weight	Weighted Audience
National Professional Meetings	4,195	3	12,585
National Conferences	11,305	3	33,915
Public Policy/Federal Government Institute	1,446	3	4,338
Hospitals/Medical Centers	2,975	2	5,950
Universities/Medical Schools	3,991	2	7,982
Foundations	569	2	1,138
Regional Meetings	2,459	1	2,459

Churches/Religious Organizations	260	1	260
Local Meetings	1,575	1	1,575
TOTAL WEIGHTED AUDIENCE FOR 11/1/97– 2/29/00 SPEAKERS BUREAU			70, 202

The weighted audience total for these presentations equals 70,202. When this total is divided into the previous total grant amount of \$514,364, the qualitative measure of cost-effectiveness for the most recent Speakers Bureau program results in a cost of \$7.33 per person, as compared to a quantitative assessment of \$17.92 per person. For comparison, when the total weighted audience of 70,202 is divided in the current proposed grant amount of \$417,817, the qualitative measure of cost-effectiveness would become \$5.95.

Academic Lecture Series

Formula #1 (Quantitative Impact)

Our policy will be to ask each campus host to plan for a total audience of 350 persons. The total figure may be a composite of attendance at the main lecture along with participation in the book discussion group, special seminars, classroom presentations and other connected occasions. We encourage each host institution to utilize the guest lecturer for many venues.

Our quantitative goal is to reach a total of 55,350 persons with the lecture program. We can reasonably expect each campus lecture event to be attended by 350 persons, in some cases more. Lectures available through book sales will add 6,750 lecture/audience connections. Video and audio streaming on the worldwide web will add 27,600.

60 lectures x 350 attendees	21,000
Book sales	6,750
Worldwide Web	27,600
<hr/>	
Total	55,350

Our raw quantitative cost effective measure would be \$7.33 per lecture attendee ($\$405,617.17 / 55,350 = \7.33).

Formula #2 (Qualitative Impact)

The data gathered by the above mentioned checklist will help determine the level of qualitative impact on opinion leaders – that is, those most likely to lead in future influence. Here is our rating calculus of program attendees:

Students:

- 1 undergraduates
- 2 masters (M.S., M.A., etc)
- 3 professional (M.D., M.Div., etc)
- 4 doctoral

Faculty:

- 3 natural science
- 3 religious studies/theology
- 3 other fields

Opinion leaders:

- 2 trustees
- 4 presidents, deans, chancellors, development officers
- 3 journalists, reporters, media people
- 2 community leaders
- 2 clergy
- 1 local alumnae

2 significant donors

We will also gather data on radio and TV interviews, newspaper or magazine coverage, videotape and audiotape distribution, web availability and interactive media, etc. All of this raw data will be fed into a site total to measure relative qualitative impact.

Increased Productivity

Two approaches to cost-effectiveness are available to us. One approach would be to assume a fixed or static product; then we would try to reduce production costs. This approach is reflected above. The other approach would be to accelerate and expand productivity within an existing budget. Our product – university lecture events – is not static. It is dynamic. The lectures are aimed at pioneering new programs by enlisting energy and creativity and by inspiring new intellectual leadership. Cost-effectiveness here comes in the form of expanding productivity.

With regard to programming, this approach searches out existing opportunities and when possible, creates opportunities. The watchwords are “flexibility” and “adaptability” within the purview of our long-range vision; namely long range curricular and cultural impact. “Progress requires changes” (week 19: Law 4). This means, among other things, we will attempt to enlist as many campus sites as possible within the existing budget. Cost-effectiveness will increase with every extra program above 60.

With regard to budgetary watch dogging, we use the flexibility and adaptability principles to look for savings opportunities when they arise. When one speaker can cover two or more events on a single airfare, we take a savings. When a speaker turns down an honorarium, we take a savings. When a host institution covers hospitality and other expenses, we take a savings. These various savings are combined to create a budget for an additional lecture site. This prudent procedure leads to increased program productivity.