Monetizing the triple bottom line

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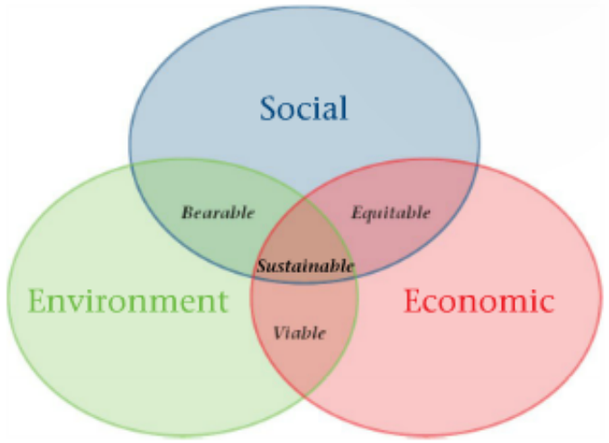
It's all Greek to you. At least, it's all Greek until someone translates it into a language you understand. When comparing dollars to the qualitative benefits of high performance buildings, green stormwater infrastructure, or renewable energy, the need for a translator becomes apparent.

A process for converting qualitative benefits into dollars is required to make a sound business case for sustainable investments. Otherwise sustainable projects with higher costs and higher qualitative benefits will never get built. For example, higher capital costs for energy and water-saving designs demand financial comparisons with potential long-term cost savings. Moreover, these investments may lead to greater recreational opportunities, reduced flood risk, or improved health and safety. When these qualitative benefits are present the project would benefit from evidence of the total value including the benefits translated into dollar value. Total value can be determined from impacts on owners, occupants, and the general public, to account for a triple bottom line—financial, environmental, and societal impacts.

The triple bottom line of sustainable design impacts is typically only addressed qualitatively, or perhaps through a multi-criteria assessment with subjective ratings put on various criteria. However, there is a better way forward that has been developing rapidly in recent years: putting an objective monetary equivalent value on each of the positive and negative social and environmental impacts generated by a specific investment. In other words, monetizing the triple bottom line.

The triple bottom line



Using widely-accepted economic literature to value these impacts in dollars, cost-benefit analysis frameworks such as Social Return on Investment or Sustainable Return on Investment (SROI) have been rapidly gaining traction. These frameworks can be used to prioritize spending and allocate funding to projects that are the most cost effective and create the most public value. With cost-benefit analysis organizations can communicate the benefits of infrastructure spending to different groups. For example, a new Low Impact Development stormwater management system may lead to reduced flood risk, increased aesthetic value in the region, increased recreational opportunities, reduced carbon emissions, better air quality, and an increase in property value; detailed cost-benefit analysis can reveal these benefits so that government leaders can communicate these benefits. With a cost-benefit analysis and an assessment of who benefits, nothing gets lost in translation.

Best practices in economic analysis dictate that a transparent, evidence-based process is critical to generating credible measures of the potential value of design options. With many market goods, such as groceries, we have a market price. With intangible goods, such as an afternoon at the park or clean water in its natural state, we do not have a market price. How do we put a price on natural resources that have a market price of zero but that many consider priceless? For these resources economists define three types of value:

- Use value is the benefit people received from a natural resource.
- Existence value is the benefit people receive from knowing that a particular environmental resource exists.
- Bequest or option value is the value arising having ability to use or receive benefit or the benefit from paternalistic altruism.

The value of our natural environment extends beyond that of people who use it directly. Some would like the option to visit a wilderness area sometime in the future. Furthermore, there are people who may express a demand for the natural environment, not because they hope to use it themselves, but because they would like other people and future generations to be able to enjoy it. This is referred to in economics literature as existence value. In environmental economics literature the total economic value is the sum of use value plus option value plus the existence value.

Estimating option and existence values is difficult since individuals are not revealing their preferences explicitly in a market. "Willingness to pay" is the amount of money people are willing to forego to have the item of interest. As shown in auctions, people have different willingness to pay values for the same item. This is where economists use statistical methods to determine the most accurate social value. Value or willingness to pay is estimated by implementing a Stated Preference Survey. In such a survey, a detailed explanation is provided as to what is being proposed is described and the respondent is given a series of choices where tradeoffs have to be made. There are two main types:

- Contingent Valuation: A survey-based economic technique for the valuation of non-market resources, such as environmental preservation or the impact of contamination
- Conjoint Analysis: A statistical technique to determine how people value different attributes (feature, function, benefits) that make up an individual product or service

In a simple world, all prices would be revealed. By simulating a hypothetical (and plausible) market, estimates can be derived by surveying people to collect their evaluation of changes in the level of environmental quality, health and safety. Asking people outright how much they would pay produces highly optimistic and unlikely values as people tend to provide answers they feel are socially expected. The stated preference approach has gained acceptance by academics and policy makers. All externality estimates are subject to uncertainty. Since prices (i.e., value) are not directly observable it is critical to ascertain the nature and degree of risk. The quantification of risk becomes crucial when contingent valuation estimates are used to justify an intervention (i.e., policy). Providing estimate bounds and risk ranges enhances the credibility of the analysis. Therefore risk-based cost-benefit analysis is the best approach to understanding the overall net benefit of projects. It also offers an approach to determine winners, losers, compensation, and risk mitigation and management actions. This approach, along with the valuation of the triple-bottom-line economic, social, and environmental impacts to a project, is the approach of best-practice cost-benefit analysis frameworks such as Sustainable Return on Investment.

Because the concept of sustainability still lacks general consensus, it has been difficult to incorporate into project valuations. The missing piece has been an objective, transparent process that can demonstrate how sustainable projects will generate economic growth while conserving limited resources. The modern cost-benefit frameworks provide that process and allow public officials to express, in dollar terms, non-cash costs and external benefits. These frameworks facilitate compliance with emerging federal and local requirements while justifying their expenditures in sustainable initiatives to stakeholders, articulating the merits of proposed initiatives to funding agencies, and building confidence in their commitment to sustainability.

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