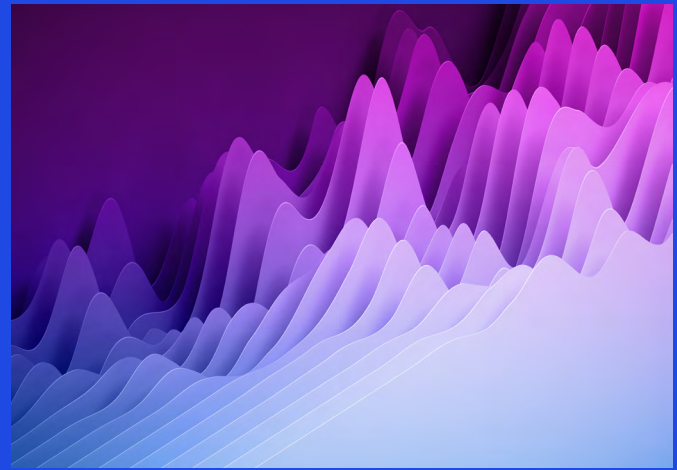




Cost-benefit analysis

Informing decision making through systematic evaluation



In a world of scarce resources, an organization's future well being rests on its ability to successfully assess the benefits and costs of its planned business decisions. Cost-benefit analysis (CBA) is a process by which an organization can systematically determine if a proposed undertaking (e.g., construction project, policy decision) is a sound venture and compare it to alternatives. Whilst often a requirement for certain federal government involvement—such as grant determination or congressional approval—CBA allows for a reproducible, transparent, and defensible approach to support informed decision making. Conducting a forward looking assessment of prospective projects allows organizations to make decisions based on expected economic benefits and costs of such investments.

Economists in KPMG LLP's (KPMG) Economic & Statistical Consulting (ES) practice provide private and public sector clients with the experience and technical capabilities to develop defensible CBAs. These professionals have the advanced analytical capabilities and sophisticated critical thinking skills to help clients evaluate opportunities and make data driven business decisions.

Background

CBA has been the foremost methodology to evaluate investments and analyze policies that are typically subject to limited resources and budget constraints. Our professionals are trained in applying the CBA approach to a wide array of subject areas, including but not limited to transportation, public health, and regulatory impact analysis.

CBAs assist private and public sector clients with better allocating their resources and selecting project endeavors that help maximize potential benefits.

For example, public sector entities (e.g., Department of Transportation and U.S. Army Corps of Engineers) require CBA to evaluate proposed projects and adhere to federal guidance¹ associated with conducting CBAs. Whether a private or public organization, our team of economists are equipped with the content knowledge and technical aptitude to inform high-impact decisions.

Application of CBA

Organizations often have competing investment opportunities with budget and regulatory challenges. CBA facilitates a systematic understanding of the implications associated with each investment or new project, relative to other alternatives.

Each CBA we conduct is adaptable and tailored to project specific needs. Instances where a CBA is relevant and useful in determining the most efficient path forward include:



Transportation

Calculating the benefit assessment typically includes an evaluation of travel time impacts, vehicle cost savings, accident reduction, and air emission impacts, whereas costs are likely comprised of the resources expended on the project (e.g., planning, design engineering, construction).



Public health

Assessing the costs of proposed policy interventions and their associated benefits involves an economic evaluation that identifies, measures, and compares health interventions in terms of project costs and expected benefits.



Regulatory impact analysis

Providing an economic justification for new or proposed changes in regulations entails an assessment of the potential social benefits and social costs of a regulation, including both the monetized impacts and any tangential effects (e.g., increase in safety).

¹The White House, Executive Order 12866, Regulatory planning and review, 58 Fed. Reg. 51735 (Sept. 30, 1993) (full-text), amended by Executive Order 13258, Executive Order 13422, and Executive Order 13497. Office of Management and Budget, OMB Circular No. A-4: Regulatory analysis (Oct. 9, 2003). Federal Register Volume 68, Issue 196.

Experience

With years of pragmatic CBA experience, KPMG economists offer insights to better tackle real world issues. For example, KPMG developed a CBA model that estimated the impact of varying budget scenarios for a leading state transit agency. The CBA included capturing the impacts on user travel time, vehicle operating costs impacts, safety and accident cost

impacts, environmental emissions (e.g., carbon impacts on society), and impacts on the reliability of the transportation network. The CBA provided the agency a defensible assessment of the benefits associated with their respective project portfolio and future benefits under various funding scenarios.

Methodology

Our ES professionals utilize the following framework to conduct CBA:

Step 01	Set the analytical framework Specify the project opportunity/policy change and the existing status quo, along with potential alternatives.
Step 02	Identify and categorize benefits List the consequences associated with the opportunity/policy change, labelling the benefits and costs as direct, indirect, tangible, and quantifiable.
Step 03	Quantify and monetize effects Collect the data representing benefits and costs, calculate the effects, and where possible, associate each impact with a monetary value.
Step 04	Perform sensitivity analyses Identify the main uncertainties and risks, and conduct analyses to understand potential impacts of alternative scenarios.
Step 05	Present results Relay findings to inform the benefits and costs of planned investment or project.

Contact us

Erkan Erdem

Principal

T: 703-286-88188

E: erkanerdem@kpmg.com

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