

Cost-Benefit Analysis (CBA)

What is Cost-Benefit Analysis and what it is good for

Cost-Benefit Analysis (CBA) is a practical tool for answering the fundamental question for each project co-financed from public resources: **"What will the realisation of the project bring to society as a whole and what will it take from it?"**

CBA is an assessment tool used for projects which need to be assessed with respect to their impacts not only on the project owner, but also on other stakeholders (users, state, municipality, the environment, etc.)

CBA transitions the meaning of "public funding" from the usual perception of it being a "gift" (we receive funding and use it to pay our salaries and equipment) to it representing an "investment" (we are interested in how much benefits, in CZK, will be generated by 1 CZK of investment into the project).

When is the document prepared

The CBA is usually prepared during the **pre-design phase** as a predictive analysis, where we estimate the impacts of the project on its surroundings and on society as a whole. This analysis may form a part of the feasibility study.

The CBA may also be prepared as an evaluation analysis after realisation of the project, in which case it assesses the actual impacts.

The CBA allows the comparison of projects from various fields, and so is a mandatory annexe to grant proposals for large investment projects

Who participates in the preparation process

Analysis of costs and benefits is usually prepared by an **expert**, and the project management team participates in the collection of documents.

When is the document used

The CBA is used to assess and approve the intent of the project, where projects which generate the highest society-wide benefits are selected for realisation.

Process of preparing the document

Only begin preparing the CBA after the project team agrees on the detailed intent of the project (target groups are specified, outputs are quantified, the budget is calculated).

1. **Identify all stakeholders** – personal and legal entities, which will be affected by the project directly, indirectly, intentionally or unintentionally, positively and negatively.
2. Estimate the **specific impact** of the project **on individual stakeholders**, how the project will "change their lives".

3. Try to find a **real-life measurable indicator for each impact**, such as the actual amount and duration of the impact on the stakeholder.
4. Try to transfer indicators which are not expressed in monetary units to monetary units – to express the value of the impact in CZK.
5. Perform **cleaning of impacts** – think about the percentage of the impact which would occur even if the project was not realised (dead weight), and the percentage of the impact which will depend on another organisation or individuals (other influences). Cleaning the impact by removing dead weight and other influences result in pure impact – an impact which has been caused purely by the activities of the project.
6. Estimate how the influence of each impact will deteriorate in individual years after the end of the project – **designate the attenuation percentage**, which will be used to reduce the value of pure impact in the second and subsequent years after the end of realisation.
7. Calculate the present amount of impacts in individual years after the end of project realisation. The present amount represents the amount of present future impact, and is calculated by the following formula:

$$\text{Současná hodnota v roce } X = \frac{\text{Čistý dopad v roce } X}{(1 + \text{diskontní sazba})^X}$$

Calculate the pure present amount as a sum of all present amounts reduced by project costs. Next, compute the benefit/cost ratio (the amount of benefits in CZK generated by 1 CZK of costs). This indicator can be calculated for individual stakeholders separately, as the ratio between the inputs invested by the given stakeholder and the benefits received by that party. Additional indicators may include the internal rate of return (IRR) and the payback period.

Note

The methodology for preparing the CBA usually comprises dozens of pages, so please do not despair if you are not completely sure about the details in each step.

To obtain more detailed information about the subject, we recommend visiting e.g. www.sroi.cz, a website dedicated to Social Return of Investment (SROI), which is a modern and methodologically well-described CBA.

Example of a completed form

See the excel file