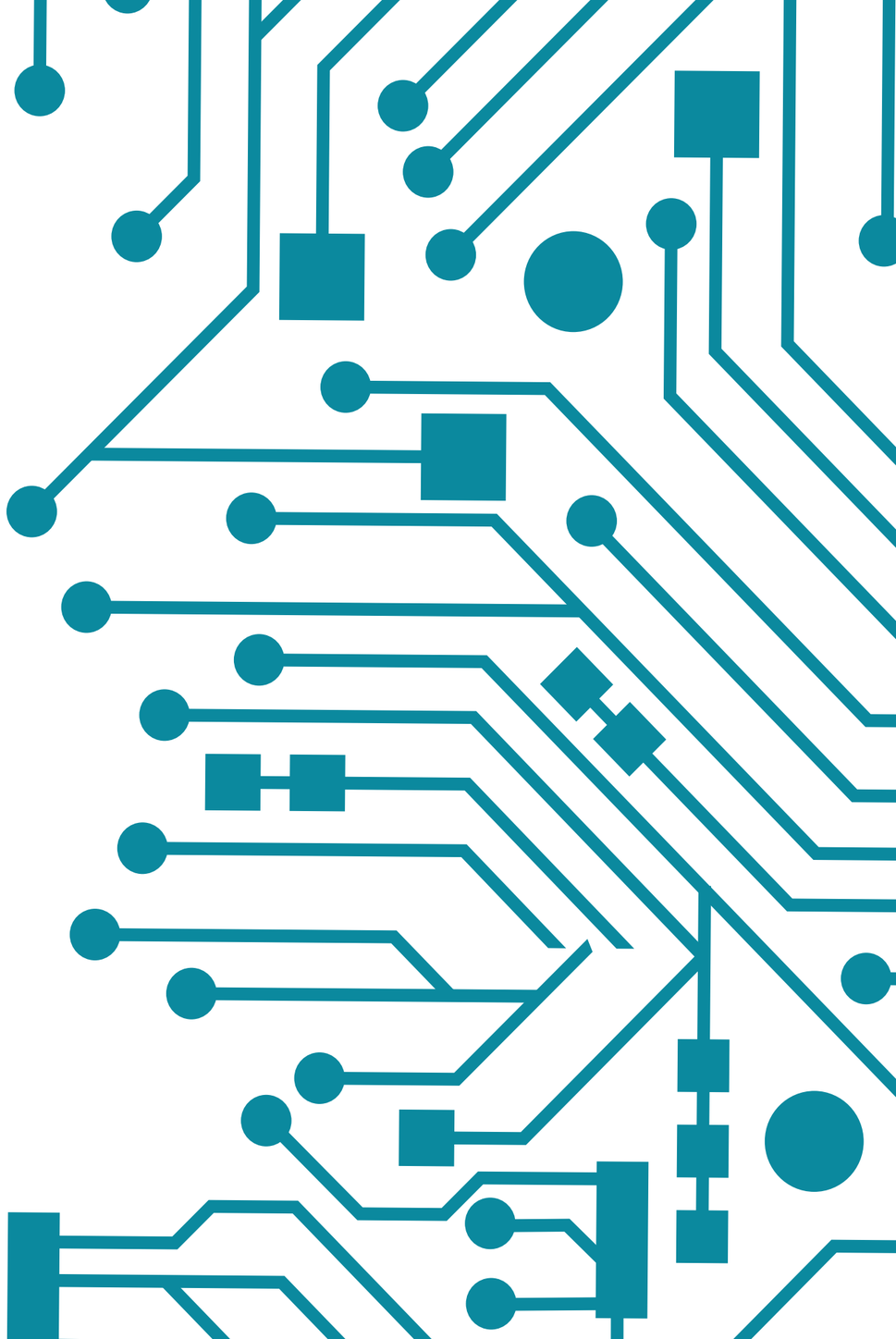
TURNING DIGITAL SKILLS INTO START-UP SKILLS

FOR YOUNG ENTREPRENEURS

MODULE BUSINESS & FINANCE

2.4

COST BENEFIT ANALYSIS



LEARNING OBJECTIVES

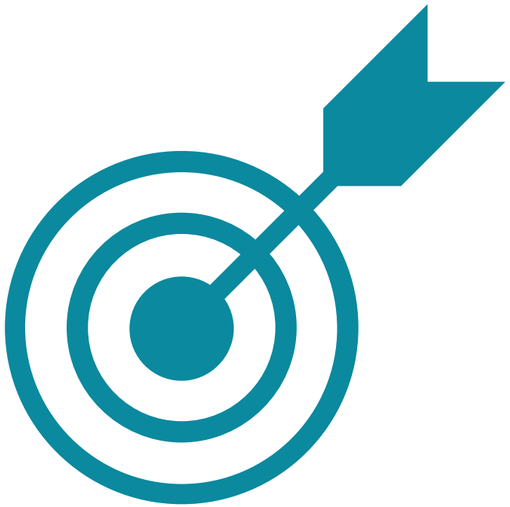
Understand what a CBA does

Perform a CBA in meaningful way

Identify the elements of CBA

Acknowledge elements that jeopardize the validity of CBA

Use CBA as a decision-making tool



Module Outline

- WHAT IS COST BENEFIT ANALYSIS?
- USEFULNESS OF CBA
- BASIC STEPS OF COST BENEFIT ANALYSIS
- LIMITATIONS OF CBA

ECONOMIC BASIS

A project has economic value if it increases prosperity and income
This may be achieved in two ways:

- Increased output which requires more resources
  (e.g., generating more business)
  Increased efficiency (lowering the cost of production)
- The risk though is:
  Too much investment wastes resources,
  too little suffocates business and productivity

The answer may be is the Reorganization of Production,
what to produce? for what reason? and how much of it?

COST BENEFIT ANALYSIS

- CBA is the hidden or obvious assessment of the benefits and costs (i.e. advantages and disadvantages) associated with a particular choice.
- The benefits and costs may be monetary or non-monetary.
- A method for evaluating projects and policies programs and interventions
- CBA is used for both prospective and retrospective actions

USEFULNESS OF CBA

Specify the set of alternative projects

Non-emotional assessment

Focus on incremental cash flows

Qualitative valuation and Alignment

Account risk rather than avoid risk

Developing benchmarks for comparing projects

Weighing investment opportunities

BASIC STEPS OF CBA

Step 1: Specify the set of alternative projects

Step 2: Assign monetary value to the Costs

Step 3: Assign monetary value to the benefits

Step 4: Discount benefits and costs to obtain present values

Step 5: Compare Costs and Benefits

Step 6: Perform sensitivity analysis

Step 7: Make recommendation

STEP 1: ALTERNATIVE PROJECTS

- Identify more than one potential alternative projects
- Compare the business benefits of each hypothetical potential alternative
- The hypothetical project is called the counter-factual

STEP 2: ASSIGN MONETARY VALUE TO THE COSTS

- Costs include the costs of

  physical resources needed

  the human effort involved in all phases of a project

- It’s important that you think about as many related costs as you can.

  E.g, what will any training cost really create? Will there be a decrease in productivity while people are learning a new system or technology, and how much will this cost?

- Remember to think about costs that will continue to be incurred once the project is finished.

  E.g If you need additional staff, if your team will need ongoing training, or if you’ll have increased overheads.

STEP 3: ASSIGN MONETARY VALUE TO THE BENEFITS

- Values must be assigned, even if it is difficult to be accurate
- Calculate along with the financial benefits that you anticipate, intangible, or soft, benefits that are important outcomes of the project.

  E.g. What is the value of stress-free travel to work in the morning?

STEP 4: DISCOUNT BENEFITS AND COSTS TO OBTAIN PRESENT VALUES

- Impacts must be discounted

  everybody has a preference for consumption now rather than later

- The benefits and costs of a project have to be expressed in terms of equivalent money of a particular time.
- Once costs and benefits are expressed in monetary units they should be converted to present value terms by discounting

  The higher the value of t the lower the discount factor

  The higher the discount rate for a given t the lower the discount factor

STEP 5: COMPARE COSTS AND BENEFITS

- Compare the value of your costs to the value of your benefits, and use this analysis below to decide your course of action
- Consider the payback time, to find out how long it will take for you to reach the break even point

  Total cost / total revenue (or benefits) = length of time (payback period).
- Choose the alternative with the largest NPV. The alternative with the largest NPV at least represents a more efficient allocation of resources

  The method of discounted payback period method is also suitable

STEP 6: PERFORM SENSITIVITY ANALYSIS

- NPV test gives relative efficiency of a project

  Environmental, economic impacts and discount rate might change due to uncertainty

- Recalculate NPV when the key parameters change to discover which one(s) of them the NPV is most sensitive to
- Once the most sensitive parameter is identified direct forecasting effort to improve best guess

STEP 7: MAKE RECOMMENDATIONS

- Normally recommend the alternative with the highest NPV, but also take into account sensitivity analysis
- Several projects have sociopolitical implications that should be taken into account
- The use and allocation of resources is significant in the recommendation process

LIMITATIONS OF CBA

CBA has the following limitations that, but are not applicable all of them at the same time or for all the projects

- Valuation of environmental goods
- Ecosystem complexity
- Discounting and discount rate
- Institutional capture

NET PRESENT VALUE

Net present Value is the difference between the market value of a project and its cost

- The first step is to estimate the expected future cash flows
- The second step is to estimate the required return for projects of this risk level
- The third step is to find the present value of the cash flows and subtract the initial investment

NET PRESENT VALUE

Net present Value is the difference between
the market value of a project and its cost

- If the NPV is positive, accept the project, if negative we reject
- A positive NPV means that the project is expected to add value to the firm and will therefore increase the wealth of the owners.
- Since our goal is to increase owner wealth, NPV is a direct measure of how well a project will meet our goal

FREE RESOURCES

http://www.cbabuilder.co.uk/
https://www.smartsheet.com/expert-guide-cost-benefit-analysis

OTHER RESOURCES

https://www.capterra.com-Pricing Software
https://www.mindtools.com/pages/article/newTED_08.htm