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Mini MBA Programmes and MEAL: design, manage and prove impact

Course handout · Week 11 : Value for money: cost-efficiency, cost-effectiveness and trade-offs

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Week 11 : Value for money: cost-efficiency, cost-effectiveness and trade-offs

Objectives

- Apply the 4E framework (economy, efficiency, effectiveness, equity) to judge a programme's value for money.
- Carry out a rigorous cost-efficiency and cost-effectiveness analysis, with allocation of shared costs and sensitivity analysis.
- Use these analyses to choose between options, without sacrificing equity or quality.

Value for money: the 4E framework

Value for money (VfM) does not mean "the cheapest". It is the best use of resources to achieve the intended results. The most widely used framework, which comes from UK development cooperation, has four dimensions:

- **Economy**: buying inputs of the required quality at the best price (prices of kits, salaries, rents compared with the market).
- **Efficiency**: converting inputs into outputs at the lowest cost (cost per kit distributed, per household registered, transfer ratio).
- **Effectiveness**: converting outputs into outcomes (share of households improving their consumption, cure rate).
- **Equity**: reaching the most vulnerable and hardest to reach, which often costs more per person.

Cost-effectiveness is sometimes added as a summary: cost per outcome achieved. The four dimensions hang together: a very economical programme that buys poor-quality kits, or a very efficient one that avoids remote areas, does not deliver value for money.

> Reaching the most isolated people or people with disabilities costs more per person. An honest VfM report explains this instead of hiding it, and shows that this extra cost is an equity choice.

Cost-efficiency analysis: the method

A **cost-efficiency analysis** calculates the cost of producing an output (for example the cost per household receiving a transfer for six months). It requires attributing to the activity **all** the costs it consumes, not just direct costs: programme staff, a share of support staff (logistics, finance, HR), offices, vehicles, and a share of headquarters costs.

The steps, inspired by the systematic cost analysis approach developed by NGOs and taken up by the Dioptra tool:

- **Define** the output and the period.

- **Gather** the actual expenditure (not the budget) for all the lines concerned.
- **Allocate** each line to the activity according to a key: 100% for an exclusively related cost; share of time for shared staff; share of direct expenditure for support costs.
- **Divide** the total allocated cost by the number of outputs.
- **Compare** with other programmes or other periods, taking the context into account.

Example. A 6-month cash programme for 2,000 households: transfers 1,080,000 USD; programme staff 96,000; payment service provider fees (2%) 21,600; share of country support 54,000; share of headquarters 42,400. Total cost: 1,294,000 USD. Cost per household: 647 USD. Transfer ratio: 1,080,000 / 1,294,000 = 0.83.

Cost-effectiveness analysis

Cost-effectiveness analysis relates cost to an outcome: cost per child cured, per household lifted out of food insecurity, per score point gained, per cholera case averted. It makes it possible to compare approaches aimed at the same outcome.

Example of a comparison. Two options to improve the food consumption of 1,000 households over six months. Option A, in-kind food: total cost 520,000 USD, 380 households move to acceptable consumption (compared with the counterfactual). Option B, cash: total cost 450,000 USD, 410 households. Cost per household that improved: A = 1,368 USD; B = 1,098 USD. B is more cost-effective in this context.

Three rules of interpretation:

- The effect must be **attributable** (week 10): dividing the cost by a before-after improvement grossly overestimates or underestimates cost-effectiveness.
- Comparisons are valid only between options aimed at the **same outcome**, in comparable contexts.
- **Multiple** effects complicate the comparison: cash can also reduce debt and support markets. In health, composite measures are used (disability-adjusted life years, DALYs), which are rarely available in other sectors.

Social return on investment (SROI), which converts all effects into money, is attractive but fragile: the monetary values attributed to social effects are highly debatable. These ratios must be read with caution and the assumptions always examined.

Economies of scale, fixed costs and sensitivity analysis

Unit cost depends heavily on **scale**. Fixed costs (coordination team, payment system, office) are spread over more beneficiaries as the programme grows.

Example. Fixed costs: 150,000 USD; variable cost per household: 400 USD. For 500 households: (150,000 + 200,000) / 500 = 700 USD per household. For 2,000 households: (150,000 + 800,000) / 2,000 = 475 USD. Comparing the unit cost of a pilot project with that of a large-scale programme is therefore unfair; compare at comparable scale, or model the cost at the target scale.

Sensitivity analysis tests the robustness of conclusions when assumptions change: what happens to the comparison if the effect of option B is 20% lower than expected? if payment fees double? If the conclusion changes for a realistic variation, this must be said: the decision then rests on an assumption that needs checking.

The **break-even point** of an investment is another useful tool: a mobile payment system that costs 60,000 USD to set up and saves 12 USD per household per month pays for itself from 5,000 household-months (60,000 / 12), for example 1,000 households for 5 months.

Presenting value for money to donors

Donors increasingly ask for a VfM section in proposals and reports. A solid section:

- Presents **indicators for each of the 4Es**, with their value and a comparison (previous period, other area, external benchmark).
- Shows the **concrete measures** taken: joint procurement, framework agreements, sharing offices and vehicles with other projects, electronic payment, loss reduction.
- Explains **justified extra costs**: hard-to-reach areas, accessibility, security, quality, localisation (support to partners).
- Acknowledges the **limitations**: non-attributable effects, incomplete cost data.

Pitfalls to avoid: presenting short-term savings that degrade quality (less monitoring, less durable materials); comparing unit costs from very different contexts; displaying a high transfer ratio obtained by cutting monitoring and accountability.

> Value for money is also an argument for support costs: a programme without solid logistics, finance and MEAL is not efficient, it is risky.

Trade-offs: efficiency, equity and quality

Cost analyses inform decisions; they do not make them. Common trade-offs:

- **Coverage versus depth**: assist 10,000 households with a transfer covering 50% of the basket, or 6,000 with a transfer covering 85%? If a partial transfer does not make it possible to achieve the intended outcome (for example avoiding negative coping strategies), helping more people less well is not more effective.
- **Easy areas versus hard-to-reach areas**: the cost per person can double in remote areas, where needs are often the most severe.
- **Short term versus sustainability**: repairing a water point costs less than training a management committee and setting up a cost-recovery system, but the water point is likely to break down again.

One way to decide is to combine cost-effectiveness analysis with **explicit criteria**: a minimum quality threshold (Sphere standards), priority to the most severe, a ceiling on cost per person beyond which another approach is sought. The decision and its reasons are written down, so that they can be explained to people, teams and donors.

Exercise: comparing two water supply options

Situation. To supply 15 litres of water per person per day to 12,000 people for 12 months, there are two options. Option A, water trucking: fixed costs 30,000 USD, variable cost 0.012 USD per litre. Option B, rehabilitation of two boreholes and a network: investment 210,000 USD, operation 2,500 USD per month. The lifespan of the rehabilitated boreholes is at least five years.

Task. 1) Calculate the cost of each option over 12 months. 2) Calculate the cost per person per year. 3) After how many months does option B become cheaper? 4) What recommendation, and under what conditions?

Answer. Volume: 12,000 × 15 × 365 = 65,700,000 litres per year. Option A: 30,000 + 0.012 × 65,700,000 = 30,000 + 788,400 = 818,400 USD, i.e. 68.2 USD per person per year. Option B: 210,000 + 12 × 2,500 = 240,000 USD, i.e. 20 USD per person in the first year. Break-even: monthly trucking cost ≈ 788,400 / 12 = 65,700 USD; B is cheaper as soon as 30,000 + 65,700 × m > 210,000 + 2,500 × m, i.e. m > 180,000 / 63,200 = 2.85 months. Recommendation: B, with trucking during the works (2 to 3 months), provided that hydrogeology confirms the yield and water quality, and that a management committee and funding for operation are planned beyond the project.

Key takeaways

- 4E: economy, efficiency, effectiveness, equity; the cheapest is not the optimum.
- Cost-efficiency = total allocated cost (including support and headquarters) / outputs.
- Cost-effectiveness = cost / attributable outcome; compare only options aimed at the same outcome.
- Fixed costs make small programmes more expensive per person: compare at comparable scale.
- Sensitivity analysis: if the conclusion changes for a realistic variation, the decision rests on an assumption that needs checking.

Quiz

1. Reaching people with disabilities and remote areas increases the cost per person. In the 4E framework, this extra cost falls under:
   A. Economy
   B. Equity
   C. Efficiency
   D. A management error

2. Fixed costs 100,000 USD, variable cost 300 USD per household, 1,000 households. Cost per household:
   A. 300 USD
   B. 400 USD
   C. 1,300 USD
   D. 100 USD

3. Option A: 600,000 USD for 400 children cured. Option B: 500,000 USD for 250 children cured. Which is more cost-effective?
   A. B, because it costs less in total
   B. A: 1,500 USD per child cured against 2,000 for B
   C. They are equivalent
   D. They cannot be compared

4. Why must a share of support and headquarters costs be included in a cost-efficiency analysis?
   A. To inflate the figures
   B. Because the activity actually consumes these resources; ignoring them underestimates its cost
   C. Because the donor pays for everything
   D. It is not necessary

5. An investment of 40,000 USD saves 8 USD per household per month. It pays for itself from:
   A. 500 household-months
   B. 5,000 household-months
   C. 320,000 household-months
   D. 50,000 household-months

Quiz answers : 1. B · 2. B · 3. B · 4. B · 5. B