Norwegian perspectives on ex post evaluation

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Norwegian University of Science and Technology
Presentation outline

1. About the Concept Research Programme
2. What is a successful project?
3. How do we measure success?
4. Ex post evaluation in Norway
5. Some results from the evaluations
6. Conclusions
We represent the Concept Research Programme

- Research programme established in 2002 by the Ministry of finance
- Follows projects subjected to the mandatory QA-scheme (projects with an expected cost > 1 billion NOK)
- Placed at the Norwegian University of Science and Technology; uses both internal and external resources
- The perspective of the financing party; project governance
- Does research and evaluation
- [https://www.ntnu.edu/concept](https://www.ntnu.edu/concept)
WHAT IS A SUCCESSFUL PROJECT?
User effects and social benefits must justify the costs

- “An new road” is not reason enough
- User effects is the main motivation for most transport schemes
- To create some sort of social benefits
- Ideally, the benefits should be higher than the costs
- Political goals also matter (but may not be formulated explicitly)
Success is selecting the right project and delivery it efficiently

- **Project concept**
  - **Wrong**
    - Failure (3)
    - Catastrophy (4)
  - **Right**
    - Success (1)
    - Unacceptable (2)

- **Cost**
  - **Right**
  - **Wrong**
Success may be difficult to anticipate

1889 World Exhibition. Purpose of the Eiffel Tower was unclear.
HOW DO WE MEASURE SUCCESS?
In a perfect world, CBA would capture all relevant effects of projects, however…

- The distribution of effects between groups and regions
- Negligible impact of environmental consequences on NPV
- Discounting negative future effects
- Uncertainty of input variables and huge variation of appraisal results in individual projects over time
- Promoting investment in affluent areas
- Projects with impact in conflict with societal goals

=> Value for money has had little or no impact on project selection
In reality, decision makers are more interested in other impacts than those measured by CBA.
All projects have objectives

• Travel time savings
• Improved safety
• Increasing the population in selected areas
• Giving communities access to better public services
• Promoting increased economic activity in areas with particular challenges
• “Levelling up” the economy
The case for change (the strategic case)

- Gross impacts for selected areas or groups, rather than net impacts for the whole economy
- Mitigating spatial economic disparities
- Open up areas for development
- Promote sustainability (economic and environmental)
Project evaluation must cover the aspirations of decision makers and expectations of society

• If decision makers are concerned with other impacts than those measured by CBA, it would be arrogant to insist that evaluation should focus only on CBA
• CBA is not comprehensive – does not include all impacts
• The definition of success is normally defined in the project’s business case
• The assessment of success should be mapped against the formulated goals
EX POST EVALUATION IN NORWAY
Extensive regime for ex ante appraisal

- Projects with an expected cost exceeding NOK 1 billion (≈EUR 100 million)

- Requires external quality assurance (QA) of decision documents at two stages. Decisions are elevated to the highest political level.
  - QA1 concerns needs assessments, possibility studies, CBA
  - QA2 concerns the cost estimate, contract strategy
Ex ante appraisal is an often long-drawn out affair that requires huge resources

• Average time for planning and appraisal of Norwegian road projects is 8-12 years
• In addition to the formal appraisal and quality assurance, projects are Planning and Building Act
  – Municipal sector plan
  – Local zoning plan

The front-end phase is crucial to project success
Ex post evaluation in Norway

• A number of studies on the accuracy of cost estimates and traffic forecasts
• The Norwegian Public Road Administration’s programme for ex-post benefit-cost analysis (monetised impacts only)
• The Concept Research Programme’s evaluations
  - 2-3 evaluations per year
  - 34 projects evaluated since 2012
• Meta evaluations of sectors
The framework for evaluation

- Input
- Project
- Output
- Outcome
- Societal objective

- Efficiency
- Effectiveness
- Sustainability
- Other impacts

- Needs
- Relevance
- Benefit-Cost efficiency

Norwegian University of Science and Technology
# Evaluation criteria

<table>
<thead>
<tr>
<th>Level of success</th>
<th>Evaluation criterion</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operational</strong></td>
<td>Efficiency</td>
<td>Concerns project implementation and outputs in terms of cost, time and quality, and how economically the project organization has converted inputs into outputs.</td>
</tr>
<tr>
<td><strong>Tactical</strong></td>
<td>Effective-ness</td>
<td>Concerns whether the agreed outcome has been obtained and to what extent the project has contributed to this outcome.</td>
</tr>
<tr>
<td><strong>Strategic</strong></td>
<td>Other impacts</td>
<td>This includes all consequences beyond the agreed outcome (i.e. side-effects) that can be attributed as the result of the project, positive and negative, short-term and long-term, for different stakeholders.</td>
</tr>
<tr>
<td></td>
<td>Relevance</td>
<td>A project is relevant if there is a need for what the project delivers. Project relevance is measured in relation to national political priorities, but also stakeholders’ preferences. It is essential to bring conflicts of interest to light as part of the evaluation.</td>
</tr>
<tr>
<td></td>
<td>Sustaina-bility</td>
<td>A project is sustainable if its benefits are likely to persist throughout its lifetime. This usually requires that the total impacts (financial, environmental and social) are acceptable in the long run.</td>
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<tr>
<td></td>
<td>Benefit-cost efficiency</td>
<td>This should be measured in terms of total willingness to pay in relation to cost, or secondarily in terms of outcome in relation to cost (i.e. cost-effectiveness).</td>
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A broad assessment of project success

• The project achieves its goals
  • Operational success: Time, cost, quality
  • Tactical success: The usefulness of the project for users
  • Strategic perspective: Long term social effects and sustainability

• Results are mapped against goals in the business case

• Evaluation goes beyond the monetized impacts and includes both intended and unintended outcomes
SOME RESULTS FROM THE EVALUATIONS
Cost performance in transport projects is relatively good (final cost/P50)
# Road projects generally more successful than rail projects

<table>
<thead>
<tr>
<th>Project</th>
<th>Operational success</th>
<th>Tactical success</th>
<th>Strategic success</th>
<th>Value for money</th>
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</thead>
<tbody>
<tr>
<td>E6 Riksgrensen-Svingenskogen</td>
<td>5</td>
<td>6</td>
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<td>Fv 519 Finnfast</td>
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<td>E6 Åsgård-Halmstad</td>
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<tr>
<td>E6 Svingenskogen-Åsgård</td>
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<tr>
<td>E18 Momarken-Sekkelsten</td>
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<td>Rv 653 Eiksundsambandet</td>
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<td>E16 Kløfta-Nybakk</td>
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<td>Rv 13 Hardangerbrua</td>
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<tr>
<td>E10 Lofast</td>
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<td>Lysaker stasjon</td>
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<td>Lysaker-Sandvika</td>
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<td>Sandvika-Asker</td>
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<tr>
<td>Stavanger-Sandnes</td>
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<tr>
<td>Gevingåsen tunnel</td>
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<td>2</td>
</tr>
<tr>
<td>Barkåker-Tønsberg</td>
<td>4</td>
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</table>
Road projects often have trivial goals while rail projects have been over-ambitious

- Travel time and safety benefits often achieved immediately in road projects
- Rail projects depends on a range of measures to be successful
  - Rolling stock
  - New timetables
  - Road projects
  - parking
  - Land use policies
- Today: Much more emphasis on benefit management
Some evidence of wider impacts, but most likely gross impacts

- Some municipalities experience positive development impacts when roads are improved – and some negative
- Communities close to cities becoming within a commutable distance
- No evidence of net benefits for the economy
Conclusions ex post evaluations in Norway

- Ex-post analyses give valuable information on the quality of ex-ante assessments
- Success is a heterogenous measure
- Single point estimates ex ante and ex post obscures, rather than clarifies
- Evaluations (ex ante and ex post) must address the policy aspirations of decision makers
- Ex ante and ex post evaluation criteria should match
- Success on all measures is extremely unlikely
Thank you!

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