What’s new on Club Murat CBA software?

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Introduction

• Several cost-benefit analysis methodologies have been developed during the last 20 years
• Frank Möller developed his methodology in the early 90’s in Pilot NIMIC
• This methodology was improved later by Alex White (Australia) : Monte Software
• This has been adapted by Club Murat in a user-friendly model called ACB since 1997
• Today : ACB 4.0
CBA (Cost Benefit Analysis)

- To assess the difference of the global cost between a so-called « reference munition » and a projected munition all along its life cycle
CBA (Cost Benefit Analysis)

\[ C.P. = C.A. + C.E. \]

\[ C.A. + C.E. = C.P. \]
New versions of the ACB software (from V 3.0)

Life cycle is:

- described by an arborescence unlimited
- analysed with many types of storage, of transport and of operation as it needs
Example of Arborescence
ACB 4.0
1st level of the analysis
ACB 4.0
2nd level of the analysis
Descriptif de l'inventaire impliqué dans la séquence

Title
Sequence n°1

Reference

Military context
Peace
Peace

Number of involved reference munition
750

Duration
11.6 years

F1 = Help

OK
Example of the 3rd level of the analysis
### Mission Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Mission n°1</td>
</tr>
<tr>
<td>Number of Missions per year</td>
<td>[12.5; 37.5]</td>
</tr>
<tr>
<td>Number of reference munitions per mission</td>
<td>[1; 1]</td>
</tr>
<tr>
<td>Cost of one mission with reference munitions</td>
<td>[0; 0] €</td>
</tr>
<tr>
<td>Mission cost variation between reference version and projected version</td>
<td>[0; 0] %</td>
</tr>
</tbody>
</table>
ACB 4.0

Storage

Title: Storage n°1

Number of reference munitions per storage

- 250 ; 750

Number of reference munitions per magazine

- 100 ; 300

Annual cost of storage for one reference munition

- 75 ; 225 £

Storage cost variation between the reference version and the projected version

- 0 ; 0 %

F1 - Help
4th level of the analysis
The Möller formula as used in ACB software

• Benefit of the IM program = 
  + Logistic benefits 
  + Potential benefits 
  - Acquisition costs
CBA soft evolutions

Version 2.8

– Mono-scenario
– Difficult to estimate the parameters exact value

Version 3.0

– Multi-scenario
– Difficult to estimate the parameters exact value
### Cost Benefit Analysis

<table>
<thead>
<tr>
<th>Description</th>
<th>Minimum Value</th>
<th>Average Value</th>
<th>Maximum Value</th>
<th>Rate under 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muratisation cost variation</td>
<td>6293247</td>
<td>26221858</td>
<td>72395526</td>
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<tr>
<td>Logistic profits variation</td>
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<td>Potential benefits when losses variation</td>
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<td>270881915</td>
<td>1288439257</td>
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<td>Cost Benefit</td>
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<td>1253627282</td>
<td>0</td>
</tr>
</tbody>
</table>

Title of case: Case n'T
Numbers of runs: 5000
Currency unit: €

Analysis without Discounting