



The costs that matter

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Once upon a time..

- A few decades ago it was of prime importance to ensure that defence contractors were not overpaid, resulting in excess profits.
- MoD staff scrutinised contractors' claimed costs and compared them with costs actually incurred.
- Then the sum that really mattered on a defence project was (price paid by MoD) – (cost incurred by the contractor).



Today

- **The costs of defence projects can be formulated in many, many ways.**
- **Powerful computers and clever software yield a cornucopia of financial data.**
- **But which of these data on project cost actually matter?**



Bounding the cost

- **In former times the cost most often associated with a defence project was its procurement cost.**
 - Procurement cost should include MoD's intramural activities, as well as extramural activities by contractors.
- **Today Smart Acquisition demands that project management should be based on the project's through-life cost (TLC).**
 - TLC includes all direct costs from Concept to Disposal
 - TLC may include a share of MoD's overheads

Bounding the cost (2)

- **The TLC of a project should incorporate all of the 6 lines of development which are required to make the project effective.**
- **It should incorporate the cost of interfaces**
 - between subsystems within the equipment, between the lines of development, and between the project and others operating in the same battle-space.
- **TLC of *equipment* traditionally included *personnel, training and infrastructure*.**
- ***Sustainability* traditionally included in-service support in peace but should now include additional logistics for deployment and support in theatre.**
- ***Doctrine* may yield costs involving other projects**

Presentation of the project cost

- However the project cost is bounded, it can be presented in many ways.
- The time profile of the real expenditure on the project, valued at constant prices, and the total resources over the life span of the project.
- The time profile of cash expenditure calculated using historic and/or forecast levels of monetary inflation, and the total cash expenditure.
- The time profile of resource consumption, following the rules of RAB, and the total of that profile.
- The time profile of discounted cash flow (at constant prices) and its total = Net Present Value

Subdivision of project cost

- **However a projects cost is bounded and presented, it can be subdivided in many ways of interest to different stakeholders.**
 - Project phase, e.g. CADMID
 - Financial year
 - Military, civil service and industrial expenditure
 - Contractors in the supply chain, location and ownership
 - Area of technology
 - Military capabilities to which the project contributes
- **An infinity of costs can be calculated, but which costs really matter and which deserve the most scrupulous attention?**

Defence budget

- **One cost which really matters is the cost (in successive defence budgets) of providing and sustaining equipped forces which can successfully achieve the required range of military capabilities.**
- **That cost matters to the public and their MPs, because it represents the resources devoted to national security and hence diverted from other aspects of national welfare.**

Defence reviews

- Periodically UK must consider alternative strategies for achieving its security objectives.
- At those times it is important to estimate the cost of an enhancement/reduction of the defence budget which would provide a specified increase/decrease in UK military capability.
- A change in capability may involve one or more equipment projects which together deliver it. The cost of the change is the sum of the project's TLC.
- The enhancement/reduction in the defence budget is important to politicians and to diplomats.

Concept

- **During the Concept phase cost forecasts must support a balance of investment decision about the class of equipment which would best provide a required increment in UK military capability.**
- **These cost forecasts should cover the TLC of potential projects the alternative classes, and should strive for an accurate total cost to ensure affordability of the chosen class.**
- **These costs are important because cancellations waste resources.**

Assessment

- In this phase cost forecasts help identify the most cost-effective project proposal from rival contractors, which propose alternative designs and acquisitions strategies within the chosen class of equipment.
- This process requires an investment appraisal based on discounted cash flow, but must also take account of peaks in expenditure.
- The distribution of expenditure by region and by industrial sector is relevant to project selection.
- This cost forecast is important to achieve best VFM.

Demonstration

- During the Demonstration phase technical difficulties and other events often demand trade-offs of project performance, timescale and cost.
- The cost increments and decrements resulting from alternative trade-offs must be forecast with the same accuracy as the associated changes in project effectiveness.
- In this phase greater attention is given to potential changes in project cost, rather than to the total.

M anufacture

- **When production-standard hardware yields definitive information on reliability and maintainability, the alternative costs of different ILS strategies are refined and compared.**
- **The selection of an effective and economical ILS strategy is important to field commanders, Service support branches and contractors.**

In-service

- **The MoD strategy of Incremental Acquisition requires a series of equipment upgrades through its service life, to enhance performance and/or to reduce cost.**
- **The cost of such upgrades must take account of all the consequences, including any retraining and re-qualification.**
- **Here again more attention is given to potential changes in TLC, rather than its total.**

Disposal

- **The final phase of the project provides an opportunity to record and disseminate the actual TLC incurred.**
- **These costs are (or should be) important because they provide lessons on the validity of earlier forecasts and because they will act as the foundation for future forecasting.**



Different costs matter to different stakeholders

- Total TLC matters to officials planning budgets.
- Investment appraisal matters for the proper allocation of national resources.
- Distribution of project expenditure matters to industry and to DTI. Public/private split matters to apostles of the free market.
- Annual cash flow matters to the Treasury and to the gilts market.
- Economical ILS policy matters to contractors and Service support branches.
- Allies have a direct interest in UK military capability.
- Cost overruns matter to the NAO.



Costs which matter to individuals

- **In an ideal society, the interests of individuals are closely aligned to the national interest.**
- **In practice individuals may focus on costs which matter mostly to themselves**
 - Annual project outturn v. budget
 - Shareholder annual dividend
 - Cost increment linked to a favourite technology insertion
 - Cost which they can influence directly

Costs which don't appear to matter

- **Caveat; a spectator's view is inevitably flawed.**
- **Costs which are never calculated**
 - Elements of Service operating cost?
 - Actual project TLC, assessed after OSD and disposal?
 - Forecast TLC covering all 6 lines of development?
- **Costs which are calculated but are tacitly ignored**
 - Through-life cost forecasts?
 - RAB budgets?
 - Proportion of supply chain outside UK?