



## **Economic Analysis of IT Projects**

**by John Symons**

IT projects are often justified to decision makers purely on grounds of the claimed obsolescence of the currently used hardware and/or software, with no project economic evaluation and no credit being given for ongoing functionality and manufacturers' support. There is also the "new toy" syndrome: its there on the market, so I must have it.

All the projects and ongoing activities of an organisation can in practice be subjected to a high level economic classification such as: Legislative Requirement, Maintenance of Production or Service, Economic, Welfare/non-legislative HSE, as is done by those utilising an Activity Portfolio database. Such a database not only captures the primary justification of all activities, but can also hold, for example, the forecast cashflows and consequent economic indices of each, and its contribution to projected annual operating revenue and capital budgets.

The Economic category should by definition be subject to economic evaluation, as it contains all those projects and activities likely to be relatively marginal (relatively close to a benefit/cost ratio of 1.0). The Maintenance of Production (or Service) category should also arguably be evaluated, since while conceptually such projects and activities may have a benefit/cost ratio nearer to 100, on closer inspection their economic indices can overlap with those of the Economic category.

It does not make good business sense for some activities of an organisation to be economically evaluated while others are not. A thriving business should expect to have more opportunities than it can afford, so its budgets will cut off all activities below a benefit/cost ratio of, say, 4.0 rather than 1.0. In this situation, why should an IT project be approved "on the nod" when it may have a benefit/cost ratio of only 2 or 3?

When a company does not have the luxury of a surplus of business opportunities, it is still important that all projects and activities are economic. If each project does not repay its own incremental costs plus the funding costs, and provide a potentially excellent return to compensate for any high level of risk, then it damages the interests of the owners of the

company. Eventually bad decisions will impact on other stakeholders, through withdrawal of products and services, price increases and staff redundancy.

### **Cost and Complexity**

An economic evaluation process need not be costly or complex. Some degree of simplification, such as ignoring the impact of tax or excluding benefits which arise after more than 10 years, may result in no change to the ranking of projects and activities based on an index of benefit per unit cost. Such systematic errors are more critical to the company with few attractive projects, however, as some sub-economic activities will slip through the net if systematic errors are tolerated.

It is even possible to replace spreadsheet models with paper-based "rules of thumb" where columns of project data are multiplied manually by pre-printed factors to calculate components of an index of profitability. These are then added manually to give the final result.

### **Payback is not enough**

When limited economic evaluation of IT projects takes place, it is often in terms of defining the payback period. This economic measure effectively asks the question "after how many years do the cumulative benefits of this project equal the cumulative (front-end and other) costs?"

The primary objection to this economic index is that it gives no information about benefits and costs after the payback period. A secondary problem is that while it demonstrates that a project repays its own incremental costs at some time, it does not show repayment of funding costs and coverage of risk.

### **Evaluation data design and the boundaries of the project**

In many ways, the key to successful economic evaluation is the "design" of the data which is included in the cashflows to be analysed. Of particular importance are the boundaries of the project in terms of both time and the costs and benefits included.

Cashflows should be incremental ones, the difference in annual corporate cashflow between "doing something" (the project, superimposed on the base case) and "doing nothing" (the base case). All impacts of the project on overhead costs should be included, but care should be taken not to apply "tariffed" overhead costs which have been calculated on base case activity levels and therefore tend to be too high.

As indicated earlier, time horizons need to be extended beyond, for example, the widespread view that anything in the IT sphere is obsolete after 4 years, or worse still 18 months. If hardware can still operate and can be maintained and repaired for, say, 8 or 10 years, and if software will still be supported by the manufacturers for that period, this should be the time frame over which project benefits are considered. Every IT project evaluated over only 18 months or 4 years has been undersold.

The subsequent decision to upgrade hardware or software during the supported lifetime of the first project is a decision to be made later, when the upgrade becomes available but is not yet obligatory.

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**About the Author:**

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**Editor's Note:**

We appreciate that we have stepped into what can be a complex area. This note probably needs to be read a couple of times to get the thread! But business life is always about balancing risk and reward; so using economic evaluation tools to rank IT projects against other investment demands should always be a consideration.

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