



ACIS 2007

It doesn't add up: why financial evaluation methods are inadequate in appraising IS investments

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Background

- Solow's famous words in 1987 that "we see computers everywhere except in productivity statistics" has fuelled IS researchers to study the value IT adds to organisations
- Outcome of this research has seen the development of a plethora of methodologies to assess the value IT adds to organisations and on some accounts total 160 methods
- The need to justify IS investments has become important given greater dependency of and investments in IS
- Research which I am involved in at present is showing that non-IT organisations allocate 25% of their operating budgets on IS/IT and 50-80% of all business project budgets on IS/IT

Aim

To investigate why financial evaluation methods are inadequate in appraising IS investments

Literature Review

- **Evaluation** – defined as being “*a wider consideration of investments at different times*” (Ballantine & Stray 1998, pg. 4)
- **IS Evaluation** – defined as being “*the assessment or appraisal of the value, worth or usefulness of an Information System*” (Smithson & Hirschheim 1999, pg. 160)
- IS Evaluation is divided up into two areas in the literature:

Pre-Implementation Evaluation

- Focuses on justifying why organisations should invest in IS
- Evaluation is ‘forward looking’
- Estimates of future perceived value

Post-Implementation Evaluation

- Focuses on measuring benefits accrued/accruing from IS investments
- Evaluation is ‘backward looking’
- Assessments of present realised value

Literature Review

■ Return on Investment (ROI) –

- A way of evaluating *“the current value of estimated future cash flows on the assumption that future benefits are subject to some discount factor”* (Farbey, Land & Targett 1999, pg. 114)
- Organisations set hurdle rate for their investments – and people need to demonstrate that their projects will yield a return greater than the hurdle rate
- Strengths – single unit of measure allowing for cross comparison of projects
- Weaknesses – dependant on cash flow projections, difficult to evaluate IS projects with considerable non-financial benefits

Literature Review

■ Cost Benefit Analysis (CBA) –

- The CBA method is one where “the future stream of economic benefits and costs is estimated and the value of each project option is calculated”
(Murphy & Simon 2001, pg. 3)
- Strengths – well researched and established method of appraising a variety of different projects in industry
- Weaknesses – cannot cope with uncertainty and is expensive to prepare

Literature Review

■ Net Present Value (NPV) –

- NPV is a method of calculating the expected net monetary gain or loss from a project by discounting all expected future cash inflows and outflows to the present point of time calculated as present value of a project's cash inflows minus the present value of the project's cash outflows.
- Strengths – clear view of what constitutes value (projects with +NPV → should be done and vice versa) helping with the investment decision
- Weaknesses – does not accommodate qualitative criteria and intangible benefits

Literature Review

■ Discounted Cash Flow (DCF) –

- The DCF method is used to analyse the future projected cash flows of an investment discounted to convert them into present value
- Strengths – ability to deal with cash flows
- Weaknesses – cannot deal with strategic projects, eg an IS initiative that ‘enables’ a business to enter a new market but is not the direct cause of future cash inflows

Literature Review

■ Payback Period –

- Payback period is the amount of time it will take to recoup the amount of money invested in a project
- Strengths – relatively easy to interpret results, widely used in practice
- Weaknesses – cannot give true holistic picture of value generated by an IS initiative because it focuses on time taken to recoup costs as opposed to feasibility or strategic fit etc

Contribution & Conclusion

- **Financial evaluation methods are inadequate in appraising IS investments because: –**
 1. They were not originally designed for the intricacies of IS investments which have significant qualitative and intangible components
 2. The notion of 'value' is taken as being 'financial value' and so largely ignore non-financial value generated by IS investments
 3. They ignore the context with which the investment is being made, ignoring possible strategic intent of some IS initiatives
 4. They are not flexible enough to deal with uncertainty, this is important given that IS can evolve with constant advances in technology
 5. They do not deal with the people aspect of IS investments, who is impacted and how are they impacted etc
 6. They do not appreciate that IS investments are not made to directly generate cash flows but rather fit within a broader business initiative so then it becomes an argument of which IS is the most appropriate given the business context rather than is the IS investment financially feasible

Future Research

- Future research is required to answer these questions:
 - How are evaluation methodologies developed and used in practice?
 - How do people work together to co-develop IS project proposals?
 - How do people decide what IS investments they should make?

- My present PhD thesis seeks to contribute to this ongoing research by improving our understanding of the following:
 - How IS project proposal evaluations come about
 - How they start and what is involved in the process
 - What is the meaning of IS project proposal evaluation
 - When is the evaluation of IS project proposals considered successful

Thank You

Any questions or suggestions are more than welcome

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