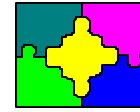


Evaluating Decision Support Systems Projects



D. J. Power

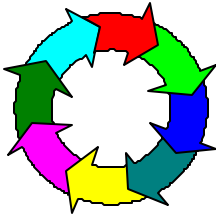
Scope of DSS Project Evaluation



Evaluation activities should be commensurate or proportionate to the size, complexity and cost of a proposed DSS project.

Project sponsors and project managers must decide what amount and type of evaluation is appropriate and necessary in their company's Information Technology management environment.

An On-Going DSS Project Evaluation Process



- initial idea stage
- formal feasibility analysis
- scheduled milestones
- prior to full-scale implementation
- follow-up evaluation

Evaluation Tools and Techniques

- Cost-Benefit Analysis
- Cost-Effectiveness Analysis
- Scoring Approach
- Incremental Value Analysis
- Research and Development Options Approach
- Qualitative Benefits Scenario Approach

Cost-Benefit Analysis

- Systematic, quantitative method for assessing the life cycle costs and benefits of competing alternatives
- Explicitly state assumptions
- Disregard sunk costs and prior results
- Estimate direct and indirect costs and benefits
- Discount costs and benefits
- Perform sensitivity analysis

Cost-Benefit Process

- Determine Problem Definition and Project Objectives
- Document current decision process
- Establish System Life-Cycle and user demands
- Define alternatives to proposed project
- Collect Cost and Benefit Data
- Document assumptions
- Estimate Costs and Benefits (direct, indirect, tangible, intangible)
- Establish Measurement criteria (especially for benefits)
- Evaluate alternatives (NPV, Benefit/Cost Ratio, Payback)

Cost Factors

- Direct Hardware, software
- Project personnel costs
- Support services (vendors or consultants)
- Process change costs (people, material)
- Incremental Infrastructure costs
- Other implementation costs

Benefit Factors

- Improved access to data
- Improved accuracy and consistency of data used in decision making
- Faster access to decision support
- Cost savings from process improvements

Cost-Effectiveness Analysis

- A simplified analysis where one assumes that all of the alternatives have either the same benefits or the same costs. The analysis is simplified because only benefits or costs needs to be calculated.
- The best alternative is the one with the greatest benefits or the lowest cost!

Scoring Approach

- Select a rating system to make numerical comparisons
- Have multiple raters evaluate each alternative on benefit and cost factors
- Weight the benefit and cost factors in terms of importance
- Calculate a weighted score for each alternative

Other Scoring Factors

- Business Justification
 - aligned with strategy
 - may provide competitive advantage
 - competitor response
- Technical Viability
 - Infrastructure Risk
 - Development Resources

Incremental Value Analysis

- Establish list of benefits a proposed DSS must achieve to be acceptable
- Establish maximum cost to attain benefits
- Build Prototype and assess benefits and costs
- Revise prototype until benefits attained within cost constraints or cost exceeded

R & D Options Approach

- R & D projects create flexibility and the option of full-scale implementation
- Establish an R & D budget for Information Systems
- Prioritize projects
- How much are we willing to pay today for keeping the project option possible?

Qualitative Scenario Approach

- Envision the DSS Project implemented
- Describe the use of the proposed DSS
- Discuss benefits that result from the new Decision Support Systems, give specific examples
- Check for consistency and plausibility
- Discuss risks and uncertainties
- Estimate upper and lower bounds on costs and development schedule

DSS Project Technical Risk

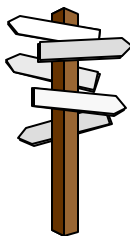
- Stability of the technology
- Project team skills
- Scope and novelty of the project
- Project definition (clear and specific?)
- Success factors (project champion)
- Optimism and prior project successes

Evaluating International and Cultural Issues

- Potential Users of DSS?
 - Location?
 - Cultural and ethnic backgrounds?
- Data sources?

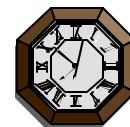
Location Issues?

- Telecommunications infrastructure
- Time zone differences
- Technology standards
- Regulations



Cultural Issues?

- English versus other languages?
- Pace of life - slow versus fast
- Work hours
- Nationalism and holidays
- Cultural assumptions
- Information sharing norms
- Decision making practices



Data Sources?

- Transborder data flow - what data can be collected and shared?
- Accounting and Currency Issues
- Data formats, legacy systems
- Data cleaning

Localizing a Decision Support System

- User Education and sensitivity to user needs
- User Interface
 - allow for translation
 - use icons and symbols that are globally recognized
 - translate help pages
 - check for political and cultural meaning in word choice, labels and icons
 - emphasize graphics

