Ontology Summit 2011
Track 3
Value Metrics & Value Models
Completeness?

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18 April 2011

Value Models & Metrics

- Value Models – What's important to the stakeholders
- Metrics - Value Measuring Methodologies
  - How are these Measurements Made?
  - What do these Measurements Mean?
- Models: Formal ROI & Beyond
  - Do our Quantitative Metrics Make the Tangible Clear?
  - How do we Model the Qualitative Intangibles?
- The Value Proposition: What's the Benefit?
  - Do our Models Fit Stakeholders Wants/Needs?
  - Do our Metrics Focus on the Value Proposition?
- The Environment & Lifecycle: Obvious & Overlooked
  - What are the Scopes we need to Address?
  - How does Lifecycle Stage affect Models & Metrics?

Value Models

- Derived from Case Studies
  - **Business Efficiency**
    - Collaborative Operations
  - **Business Agility**
    - Interoperable Business Services allowing new products and services
    - Actionable Business Intelligence
  - **Operational Efficiency**
    - Improved search & discovery
    - Quicker, more precise responses
  - **Customer Satisfaction** (internal & external)
    - Reduce CRM costs
  - **IT Efficiency**
    - More agile and complex workflows

Value Metrics

Varied by case study

- Business Efficiency
  - What cross cutting or business wide operations were changed
  - What was changed that saves time or improves performance
- Business Agility
  - What changed to provide agility
- Operational Efficiency
  - What operations were changed
  - What was changed that saves time or improves products
- Customer Satisfaction
  - How was customer frustration reduced
- IT Efficiency
  - What services were made more effective (e.g., QoS improvements)
  - More operations were improved

Value Models/Metrics Paradigm

Step 1 – Characterize* business or operational problem to be solved

- IT efficiency
- Operational efficiency
- Business agility
- Business efficiency
- Customer satisfaction

Step 2 – Identify problem stakeholders

Step 3 - Categorize type of solution with OUF

Step 4 - Identify strategy to be used

Step 5 – Identify value model & metrics needed

Lifecycle Factors

- Lifecycle Factors
  - Initial focus of value models and metrics on the design-development and run-time operations phases
  - Synthesis brought realizations
    - Needed a shift in focus: Acquisition phase
    - No few models or metrics – Needed Specialization
  - Value models and metrics for different lifecycle phases are different (but related)

Environment Factors

- Proposed ontology uses (i.e., solutions) operate in an environment
- Scale/scope of operational environment not explicitly addressed during summit

Standalone	Single department	$100K
LAN	A few departments	$1M
WAN	All departments/company	$10M
MAN	Several companies	$100M
Internet – Worldwide	All companies in same domain	$1B

- Operational environment scope impacts
  - Value of possible solutions
  - Value models and their metrics for/of solutions

Environment - Interoperability

- Operational environment and solution needs usually referred to as interoperability
- Interoperability has
  - many aspects/dimensions
  - scope
- Interoperability needs increase non-linearly w.r.t. operational environment scope
- Interoperability for operations requires common terminology and semantics
- Scope of interoperability drives the scope of what needs to be common

Environment - Commonality

- Operational Environment or scale of problem drives what needs to be ‘common’
- ‘Commonality’ needs increase non-linearly w.r.t. operational environment scope
  - Developmental ontologies could be used to facilitate design for initial operational scope
  - Maintenance ontologies could be used to facilitate dynamic provisioning in larger networked operational scope

Summary

- Ontologies facilitate aspects of ‘commonality’ and interoperability
- Value of solutions that facilitate interoperability dependent on scope/scale of operational environment.
- Value models and their metrics vary with operational scope and scale
- The **larger the scope** of interoperability **or scale**, the **larger the value** of using ontologies.