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Seilevel

**Role:** Develop new elicitation and modeling methodologies, build business analysis centers of excellence, train industry BAs, work on projects as a Business Architect

**Community contributions:**
- Member of the IIBA BABOK v3 Core Team
- Industry PC for IEEE Requirements Engineering
- Co-chair for Requirements Engineering Education and Training Workshop
- Previous IIBA® Austin Chapter VP of Education
- IREB team member

**Co-Author:**
- *Visual Models for Software Requirements* with Anthony Chen
- *Software Requirements, 3rd Ed.* with Karl Wiegers
Am I doing a good job?

How do I measure my BA team’s performance?

Our CIO wants to cut the BA team back; how do I show our value?

Developers don’t think my requirements are very good; are they right?

What’s the Question?

Quantifying Value

Measuring Requirements Success

Our Results

Next Steps
Measuring Requirements Quality

- Well written?
- Complete?
- Atomic?
- Testable?
- No ambiguous words?
- Validated?
- Verified?
- Pass the quality checker?
- Glossary clear?
- Unique identifiers
- Consistent

Requirements Quality = Wrong Measurement!

Business Value = Right Measurement
Requirements: A means to an end

Resources are focused on the wrong thing!
Google search results

<table>
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<th>measuring requirements quality</th>
<th>measuring business value</th>
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<tr>
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<td>Shopping</td>
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69 million results
6 million results
Does Anyone See the Light?

- Poor requirements = confused developers
- Complete, consistent, bounded, affordable = good requirements
- Good requirements = project “success” (undefined!)
- End goal focus over the process itself
- Requirements success = customer results (and cost effectiveness)
- Future requirements research should relate to revenue growth

Agenda

- What’s the Question?
- Quantifying Value
- Measuring Requirements Success
- Our Results
- Next Steps
A Mission for Requirements Practitioners
1. Figure out what business value we should deliver
2. Measure whether we delivered the value

Business Objectives

Business benefit that an organization expects to receive

*Increase revenue or cut costs*

Example
Reduce chemical purchasing expenses from 1M to 750K in the first year
Prioritizing Projects and Features

Understand business objectives

Assess the value of features

Cut what isn’t necessary

Assess the value of projects

Cut what isn’t necessary

Objective Chains: Quantify the Value

Business objective

Objective Factor

Objective Factor

Feature $100K

Feature $500K

Feature $1M

Feature $10K
Example: Quantifying the Value of Features

- Cut expenses by $250K in year 1
- $200 avg/chemical x 500 chemicals/yr redundancy
- Inventory knowledge eliminates extra purchases
- Stockroom inventory recording
- $100K
- $100K
- $10K
- $10K

Requirements Methodology Success Story

- Problem: Shared cart had to launch by holiday season to achieve any ROI
- Risk: Missing deadline would net $0, ROI (potential ROI was $14M)
- Solution: Seilevel analysis revealed scope would lead to $0M and cut scope to achieve $12M ROI

Business Objective: Increase sales by $14M; on-time launch critical

- Customer creates cart
- Customer contacts call center
- Rep imports cart
- Rep exports cart to Customer
- Customer completes sale online
- $2M
- $12M
- $250K
CIOs Aren’t Thinking About Requirements

**Top IT Issues**
- Business/IT alignment
- Business agility
- Business productivity
- Cost reductions
- Time to market

**Top IT Success Metrics**
- On time
- On budget
- Customer satisfaction
- SLA targets
- Productivity
- ROI

Disconnect?
Increase business-IT alignment

Shift budget to things that add the most value

Decrease time to market

**Top IT Executive Goals**

Based on: Borland’s “When Agile and Waterfall Collide” seminar Jan 2013, Seilevel research and customer experiences

**Increasing business – IT alignment**

**Select PROJECTS with the most value**

- cut projects before they start
- measurable business objectives
- meet business objectives

**Select FEATURES with the most value**

- features with business objectives
- % of rarely / never used features
- end-user adoption
- features cut per project
Measure value from IT delivery and time to market

Measure value delivered from IT

Business value return on development hours

Portion of expected value delivered by IT

Deliver value sooner

- Frequency of releases to users
- Rework dollars spent
- Defects that lead to rework
- Missed requirements that lead to rework

Interim Metrics for Fewer Missed Requirements

- Number of missed requirements*
- Number of requirements models used*
- Percent of requirements mapped to models
- Number of requirements changes after developed*

* Measured relative to project size
Interim Metrics for Requirements Completeness

Number of Open Issues

Interim Metrics for Requirements Team Productivity

Requirements touched per day & Velocity of requirements change
Surveyed Seilevel Database and Analyzed Actual Projects

Stakeholder Survey
- Role: 34 practitioners, 9 managers
- Department: 31 IT, 12 business

Survey sent to Seilevel database March 2014
27K sent, 3200 opened, 57 clicks, 43 responses

Can we measure value?

Project Team Surveys
- Sent: 30 IT, 10 business
- Responses: 11 IT, 7 business

Early results only

Project Measures
- Ongoing projects: 11
- Past projects: 12

Approximate numbers, some customers grouped
Are Projects Measuring Business Objectives?

Projects that know measurable business benefits

Projects that know the measurable benefits well enough to prioritize features

They might know them, but don’t always use them

Does Business Prioritize Using Value?

Business does reasonably well selecting projects

But not as good at selecting features
Measuring Success

Measuring if BAs are doing a good job

Desired biz benefits realized
Software adoption
Number of missed requirements
Defects due to requirements errors
Requirements issues open at launch
Cost of rework
We don't measure it today

Metrics to determine IT project success

Business benefits were delivered
Target costs not exceeded
Project on time without burning developers
Number of defects

37, 36 respondents respectively (multi-select)

Top 3 Reasons for Project Failure

Business stakeholders don't know what they want
Business stakeholders change their mind
The plan wasn't realistic
Not enough time to do the requirements
Poor business analyst execution
Too many features without value
Not enough time from the business stakeholders
Poor tester execution
Insufficient funding allocated
Not enough development time or developers
Poor developer execution

Problems tend towards business and requirements issues

And that's why we are here today!

How, if we don't know what they are?
Seilevel Project Approach to Measuring Success

1. Identify metrics
2. Baseline current state
3. Measure actual success
4. Measure interim metrics
5. Project launch
6. Adjust

Examples of Cutting Features

- **Project 1**
  - 308
  - Cut 95%
  - 16

- **Project 2**
  - 50
  - Cut 18%
  - 41

- **Project 3**
  - 66
  - Cut 15%
  - 56

*Project with focus on cutting scope*
## Ideal Numbers of Models Used

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## Models to Identify Requirements Gaps

27 mostly text-based requirements documents with 1490 requirements
Team partially retrofitted requirements with models to identify gaps

- 82 initial models (poor quality)
- 345 additional models created (partial retrofitting)
- 178 requirements issues found (new or changed requirements)
Project Issue Trend

Project at risk for completing with issues flat-lined!

Project Stakeholder Trust Survey: Average Results (Early)

Business trusts IT more than IT trusts business?
Challenges

- Not much existing data
- Teams don’t understand projects’ impact/measurable objectives
- Measurements varied significantly by customer and project

Next Steps

- Focus on fewer metrics for each team
- Collect more data (constant reminders)
- Set measurable business objectives - baselines now, measures at end

Agenda

- What’s the Question?
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People Do What They Are Measured To Do

- Metrics
- Wrong incentives

Unintended results

People Do What They Are Measured To Do

Understand Value + Measure Value = Value Increase
Challenges

! Can't measure until projects are over (and teams are gone)
! Data doesn't exist today
! Measuring takes extra time
! People don't want to be held accountable for actual results

What's Next?

• Business objectives focus
• Cut minimal value projects
• Link requirements to business objectives
• Select the right metrics
• Measure and improve

Good Practices for Measuring Value
Read More

- *Software Requirements, 3rd Edition* (Wiegers and Beatty 2013)
- *Visual Models for Software Requirements* (Beatty and Chen 2012)
- Business Objective Chains White Paper www.seilevel.com

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