Requirements
Repositories and Reusability

How repositories and reusability can help achieve a competitive advantage

In partnership with:

Keith Ellis
President & CEO
Enfocus Solutions
What are we going to talk about?

- What creates value?
- Requirements are valuable when *Connected* and in *Context*
- Can repositories deliver standardization?
Enfocus Solutions: Achieving Business Analysis Outcomes

BUSINESS ANALYSIS SOFTWARE

DYNAMIC COLLABORATION ENVIRONMENT

PROFESSIONAL DEVELOPMENT PLATFORM

ACHIEVE RESULTS

RequirementPRO
- Comprehensive platform for business analysis activities
- Easy to learn and use and provides rapid entry of requirements
- Repository for business analysis artifacts supporting traceability of cost and time
- Requirements set of features to support business analysis activities
- Problem Statement
- Visions
- Capability Gap Analysis
- Business Case
- Balanced Scorecard
- Business Objectives
- Project Constraints
- Solution Scope
- Stakeholder Impact Analysis
- IT Service Design
- Enterprise Data Impact Analysis
- Business Process Impact Analysis
- Business Rules
- Stakeholder Needs
- Scenarios
- Use Cases
- Test Cases
- Requirements Validation
- Requirements Inspection
- Defect Tracking
- Petri-Net Analysis
- Requirements Traceability
- Transition Requirements
- Support for Agile Waterfall and COTS Projects

StakeholderPORTAL
- Collaboration platform for stakeholders
- Stakeholders can perform the following activities:
  - Understand the project context
  - Document and maintain business rules
  - Review business impacts
  - Understand the solution scope
  - Define their needs in their own words
  - Define activity and problem scenarios
  - Review and comment on requirements
  - Participate in project lifecycle events
  - Record and review deficts
  - Stay informed about project events

Enfocus Requirements Suite

Business Analysis Performance
- 40% improvement in performance
- Easily capture relevant metrics for Business Analysis
- Dashboard to evaluate performance
- Guide to achieving benefits
- Focus on four key areas:
  - Cycle Time
  - Requirement Quality
  - Stakeholder Engagement
  - Stakeholder Satisfaction

Enterprise PORTFOLIO
- Maintain information related to business architecture
  - Business Processes
  - Enterprise Data
  - IT Services and Components
  - Stakeholder Profiles/Personas
  - Business Rules
- Build and maintain business rules libraries

Onboarding
- Comprehensive Business Analysis training program
  - Videos
  - Exercises
  - Coaching Session
- Model project for easy learning
- Focus on business analysis fundamentals as well as tool

Enfocus Support
- Comprehensive user support
- Software Upgrades – 4 times a year
- Maintenance
- High performance hosted environment

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Requirements Excellence Framework™

Business Analysis Perspective

BUSINESS ANALYSIS TASK MATRIX

1. Business Analysis Value Management
   1.1 Define BA Roles and Responsibilities
   1.2 Determine Conceptualization Approach
   1.3 Determine Roadmap Approach
   1.4 Determine Visualization Approach
   1.5 Determine Bundling Approach
   1.6 Determine Requirements Approach
   1.7 Determine Specification Approach
   1.8 Plan and Manage BA Activities

2. Situation Analysis
   2.1 Document Problem
   2.2 Define Vision
   2.3 Assess Organizational Context
   2.4 Determine Capability Gaps
   2.5 Define Project Objectives
   2.6 Define Project Constraints

3. Solution Conceptualization
   3.1 Conduct Stakeholder Analysis
   3.2 Perform Business Process Analysis
   3.3 Assess IT Service Impact
   3.4 Assess Master Data Impact
   3.5 Define Solution Features
   3.6 Define Business Case

4. Stakeholder Needs Elicitation
   4.1 Prepare for Elicitation
   4.2 Gather Stakeholder Needs
   4.3 Gather and Analyze Documents
   4.4 Gather Business Rules
   4.5 Document Terminology
   4.6 Gather Assumptions

5. Requirements Development
   5.1 Analyze Stakeholder Needs
   5.2 Prepare Use Cases
   5.3 Document Functional Requirements
   5.4 Document Non-Functional Requirements
   5.5 Create Required Visualizations
   5.6 Elaborate with Additional Details
   5.7 Organize and Classify Requirements
   5.8 Prioritize Requirements
   5.9 Validate Requirements

6. Requirements Management
   6.1 Create Requirement Bundles
   6.2 Validate Requirement Bundles
   6.3 Baseline Requirement Bundles
   6.4 Transition to Design
   6.5 Trace Requirements
   6.6 Manage Changes to Requirements
   6.7 Maintain Requirements for Reuse

7. Solution Evaluation and Acquisition
   7.1 Determine Evaluation and Selection Approach
   7.2 Prepare Evaluation Documents
   7.3 Identify and Short-List Solutions
   7.4 Analyze Short-Listed Solutions
   7.5 Document Decisions

8. Solution Assessment and Validation
   8.1 Create Lifecycle Events
   8.2 Create Test Cases
   8.3 Create Verifications
   8.4 Perform Tests and Verifications
   8.5 Resolve Defects
   8.6 Define Transition Requirements

9. Stakeholder Socialization
   9.1 Disseminate Project News and Events
   9.2 Monitor Stakeholder Engagement
   9.3 Monitor Project and Take Corrective Action
   9.4 Conduct Retrospectives
   9.5 Enable Organizational Change

10. Portfolio and Knowledge Management
    10.1 Manage Project Portfolio
    10.2 Manage IT Services Portfolio and Knowledge
    10.3 Manage Business Process Portfolio
    10.4 Maintain Stakeholder Personae Catalog
    10.5 Maintain Business Rule Books
    10.6 Manage Benefits Realization
Learning Objectives

- Best practices in knowledge management
- Building the business case for BA/Requirements Repository
- Challenges in building a repository
- Linking the repository to business architecture
- Promoting standardization and reusability
Repository could be anything...

What is a Requirements Repository?

- A requirements repository is a method of storing requirements, including those under development, those under review, and approved requirements.
- Repositories may include whiteboards, work processing documents, diagrams and models, wikis, requirements management tools and applications.
- The repository should be single-sourced and available to all relevant stakeholders for as long as they are needed.
- All approved requirements should be found in a repository (as opposed to using tools such as email, which may not reach all relevant stakeholders and may not be retained) and stakeholders need to be able to locate requirements in that repository.

Source: BABOK v2.0, p. 43-44
PMBOK Requirement Types

- **Business requirements**, which describe the higher-level needs of the organization as a whole, such as the business issues or opportunities, and reasons why a project has been undertaken.

- **Stakeholder requirements**, which describe needs of a stakeholder or stakeholder group.

- **Solution requirements**, which describe features, functions, and characteristics of the product, service, or result that will meet the business and stakeholder requirements. Solution requirements are further grouped into functional and nonfunctional requirements:
  - **Functional requirements** describe the behaviors of the product. Examples include processes, data, and interactions with the product.
  - **Nonfunctional requirements** supplement functional requirements and describe the environmental conditions or qualities required for the product to be effective. Examples include: reliability, security, performance, safety, level of service, supportability, retention/purge, etc.

- **Transition requirements** describe temporary capabilities, such as data conversion and training requirements, needed to transition from the current “as-is” state to the future “to-be” state.

- **Project requirements**, which describe the actions, processes, or other conditions the project needs to meet.

- **Quality requirements**, which capture any condition or criteria needed to validate the successful completion of a project deliverable or fulfillment of other project requirements.

**BABOK includes Business, Stakeholder, Functional, Nonfunctional and Transition requirements**
Repositories: Behind the Scenes

What is really being asked of employees?

**Tacit Knowledge**

- ("I understand something"
  "It's in my head")

**Repositories**

- **Store**
  (Select how and where I put it)

- **Codify**
  (Write down, or model the knowledge)

- **Utility**
  (Understand why to use this knowledge)

- **Search**
  (Find what I need)

**Motivation Assumptions**

- Have training & discipline
- Have the desire to help others
- Faster to go to the repository than to just ask someone
- Have desire to learn

**De-Codify/"Interpret"**

(Read, view, interact)

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How do repositories start…
Differentiating Repository Variations

**Requirements Modelling**
Extremely High Level of Codification

**Requirements Repository**
Factual and Contextual Knowledge with Organization and Codification

**Requirements Hoarding**
All Knowledge, No Organization
Golden Rules to Consider

• People are more willing to search for knowledge than share

• Every repository needs subject context to get contribution

• Codification is a balance:
  o Too little and it’s hoarding
  o Too much and it’s a single purpose system

• Two types of integration need to occur to make repositories useful:
  1. Make the repository part of the daily work environment
  2. Insure the repository interacts with other information systems within the organization
REPOSITORIES: WHAT CREATES VALUE?
Context is *THE* most important issue

Impact
Who or What does it impact?
(Service, Persona, Process, Data, Rule)

Intent
(Expected benefits for a sponsor)

STATE
(Draft, Approved, etc)

COLLABORATIVE
(Comments, shared actions, etc)

History
(Log of change, approval and Implementation)

Work Flow
(Who did the work, what’s next to do, issues, defects, resolutions)

VERIFICATIONS
(Conditions of value)

PROJECT
Feature
Requirement
Requirement Attribute

WORK PRODUCTS
(Attachments, models, etc.)
Connected Requirements

1) Maintain the synchronization between PLAN and ACTION layers
2) Facilitate interaction between the Owners and Analysts
3) Make it a closed, self-updating, loop

“CONNECTED REQUIREMENTS”
Requirements consist a set of relationships:

- User Story or Shall Statement
- Requirement attributes
- Relationships to other objects like impacted data, services, personas, etc.
- Prioritization
- Estimates
- Business Rules
- Traceability
- Visualizations
- Dependencies
- Review Comments
- Test Cases and Acceptance Criteria
- Action Items and Work Tasks
- Requirement Change History

- Creating Large Requirement Documents is an archaic practice brought forward from the 70s
- Requirement data is dynamic and no longer fits word processing or spreadsheet software
- Creating large paper requirements documents is slow, inefficient, and costly
Conclusions about VALUE and Best Practice

What is “Reusable”

• First and foremost - the CONTEXT of the requirements is necessary:
  o An effective project archive is a showcase of context – who, did what, why, using which workflow (how), to what outcome.
  o Context is surprisingly repeatable - the same business conditions tend to trigger a project

• Repositories are the only way to synchronize architecture and IT service planning to the execution layer (project layer) of the business

• Repositories allow you to change the way requirements are done…
  o Manage data, not documents
  o Do requirements in layers

• Finally… what is likely the #1 requirements repository today?
BUILDING THE BUSINESS CASE FOR REPOSITORIES AND STANDARDIZATION
Building your business case

Why do you need a repository?

• **The 2% rule:** 1.5% to 2% of requirements change per month… in an implementation over 24 months:
  - ~40% of requirements change at least once and ~ 10% of requirements change two or more times
  - Cost of defect and change management vastly outweighs the cost to create

• **The 2X rule:** If stakeholders routinely tell the analyst they are taking 2X the time expected, OR, analysts are taking 2X the time budgeted…
  - It’s a signal of structural problems and you need the efficiency gain
  - The payback is in the discipline

• **The 3X rule:** Can you use a stored asset 3 times?
  - The reuse of the asset vastly outweighs the effort to create and store.

• **Quality, Agility, Stakeholder Satisfaction**...
Our Value Proposition is Ultimately About Doubling Project On-Time, On-Budget and Success Rates

Turning Business Ideas into Action

Average on time, on budget, on function, and proportion of projects deemed successful for the portfolios of all strategic projects at all companies with the given level of RDM maturity

Source: Ellis, Business Analysis Benchmark 2009
MAKE THE REPOSITORY PART OF THE BUSINESS PROCESS
Large Documents or a Wall of Post-It Notes

**Waterfall Development**

**Agile Development**

Large Requirement Documents

A Wall of Post-It Notes

How can this support changing requirements?

Can you imagine what the chief compliance officer might say when told these are requirements for one of our strategic systems?

Requirement data is too dynamic to use either of these methods.
# Iterative and Incremental

<table>
<thead>
<tr>
<th>Iterative</th>
<th>Incremental</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Iterative Process" /></td>
<td><img src="image2.png" alt="Incremental Process" /></td>
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</tbody>
</table>

When you work **iteratively** you build what you can in one iteration, then review it and improve it in next iteration and so on until its finished.

Requirements are built going through a continuous set of reviews by stakeholders and the business analyst. Business Analysts receive comments from stakeholders, make improvements to the requirements, and ask for comments.

When you work **incrementally** you add components piece by piece until you are finished.

Requirements are built in layers, starting with high level business objectives, decomposed into features, functional requirements, and various layers of detail for each requirement.
# Joint Responsibility for Requirements Makes a Big Difference

<table>
<thead>
<tr>
<th>Who owns Primary Responsibility for Requirements</th>
<th>Budget % of Target</th>
<th>Time % of Target</th>
<th>Functionality % of Target</th>
<th>Stakeholder Time % of Target</th>
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</thead>
<tbody>
<tr>
<td>IT</td>
<td>162.9</td>
<td>172</td>
<td>91.4</td>
<td>172.9</td>
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<tr>
<td>Business</td>
<td>196.5</td>
<td>245.3</td>
<td>110.1</td>
<td>201.3</td>
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<tr>
<td>Jointly Owned</td>
<td>143.4</td>
<td>159.3</td>
<td>103.7</td>
<td>163.4</td>
</tr>
</tbody>
</table>

*Source: IAG Business Analysis Benchmark, 2008*

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**Collaboration**
Access to [a knowledge repository] explained 76% of the variability in the analyst’s domain knowledge”

Vitharana, Jain, Zahedi, 2010
RequirementCoach™ Analyst Community
Knowledge Content

- Analyst Briefs
- Methodology
- BA Techniques
- Practice Aids
- Practice Guide
- Visualization Methods
- Reference Guides
- Third Party Materials
A requirements tool is not enough to build mature business analysis capabilities.
Learning Objectives

• Best practices in knowledge management
• Building the business case for BA/Requirements Repository
• Challenges in building a repository
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• Promoting standardization and reusability
REMINDER:
Enfocus Solutions - Achieving Business Analysis Outcomes
(psst… It’s the secret to successful projects)
QUESTIONS AND DISCUSSION

Getting the Slides:

Email to: apalten@enfocussolutions.com
Give us a little feedback, and Andrea will be happy to send you the slide deck