# Analysis Of The BABOK By Leslie Munday



An alternative view of the Business Analysts Body of Knowledge, (Version 3, as published by the International Institute of Business Analysts)

#### Introduction 1

This work describes a view of the BABOK that is object-oriented in nature. It is based upon Version 3 of the Business Analysts Body Of Knowledge® Guide document (BABOK for short), which is available from the International Institute of Business Analysis.

The BABOK is the globally recognized standard for the practice of business analysis whose primary purpose is to define the profession of business analysis and provide a set of commonly accepted practices. The BABOK describes business analysis knowledge areas, tasks, underlying competencies, techniques and perspectives on how to approach business analysis.

This work complements, and is intended to be consistent with, the BABOK. Any 'undocumented' contradictions are due to errors by the author while creating of this work. The guidelines described herein organize the content of the BABOK into a model that provides several different viewpoints of its contents. These viewpoints are summarized in section 1.6.

The majority of the information in this document can be derived from the BABOK. Some relationships and artifact usage were added where they were not explicitly stated, or could not be found in the BABOK.

# 1.1 Purpose

The main goal of this work is to show the deliverables (or outputs) from the BABOK and demonstrate their dependencies on artifacts that are produced by the BA tasks described in the BABOK. The BABOK is a framework of processes that is intended to be customized for a specific project, or perspective. By understanding the dependencies that are present in this framework, the user can more easily identify the consequences of removing a deliverable or customizing artifacts described in the BABOK.

# 1.2 Notation

This section lists the notation used by the model described by this document.

Artifact - The primary type of object in this model is the 'artifact'. An artifact is anything that is created by or used by the actors in the BABOK. In addition, the business analyst creates or uses every artifact that is described in this model. Every artifact is an input to or an output from 1 or more tasks. An artifact is represented by a class. Figure 1: shows the Business Analysis Information artifact. The artifact under discussion maybe highlighted in green.



Actor - Actors are the people that play a role described in the BABOK. Figure 2: shows the Domain SME actor.





Task - Tasks are a discrete piece of work that may be performed formally or informally, as part of business analysis. Every task produces 1 or more artifacts, as outputs. Tasks are represented by use cases and referenced by the artifacts that they produce, as operations. Figure 3: shows the use case that captures the Communicate Business Analysis Information task and a reference to this task in the Business Analysis Information artifact, which it produces.





Guidelines Tools and Techniques - Guidelines, tools and techniques are used by tasks to transform inputs into output. A guideline provides instructions or descriptions on why or how to undertake a task. A tool is something used to undertake a task. Guidelines and tools are sometimes represented by artifacts. Techniques are represented by use cases. Figure 4: shows the inputs, outputs, guidelines and tools used by the Communicate Business Analysis Information task. The Business Analysis Approach and Information Management Approach are inputs to the task. Business Analysis Information is the output from this task. The Interviews, Reviews and Workshop techniques are used by the task. These guidelines, tools, techniques along with the inputs shown in Figure 6:, are used by the Communicate Business Analysis task to create or update the Business Analysis Information artifact. [Note: The difference between artifacts used as an input and an artifact used as a guideline or tool is a little confusing. In that it is not obvious how using an artifact as a guideline in a task is different to using it as an input to a task. Both guidelines and inputs are necessary according to the BABOK.]



Figure 4: Example Guidelines, Tools and Techniques.

• Elements – Elements describe the key concepts that are needed to understand how to perform the task. Elements are captured as attributes of an artifact. [Note: In the BABOK elements are sometimes described by information and sometimes by function.] It is not always clear from the element name, what information is being used by the element. Therefore, a type is included with the element. The type identifies the data that the element represents. The element type is not explicitly called out in the BABOK. It is a best guess, derived from the description of the element. Figure 5: shows that the Determine Objectives and Format of Communication, and the Communicate Business Analysis Package, elements form the attributes of the Business Analysis Information artifact. The Determine Objectives and Format of Communication Plan information. The Communicate Business Analysis Package provides Communication Package information.



### Figure 5: Example Elements

• Relationships – Are used to show how artifacts are related to each other. Where an artifact is an input to, or an output from, another artifact, the connection is represented by a dependency. The direction of the dependency indicates which artifact is the input and which is the output of that dependency. Figure 6: shows that Stakeholder Engagement Approach is an input to the Business Analysis Information artifact is a consumer of Stakeholder Engagement Approach.



Figure 6: Example Dependency Relationship

• Where an artifact is an input to itself, this is indicated by a self-referencing association. Figure 7: shows that the Business Analysis Information artifact is an input to itself, and also a consumer of itself.



#### Figure 7: Example Self-Referencing Artifact

• Where an artifact takes a subset of the inputs and tasks of another artifact, it is represented by an aggregation relationship. Figure 8: shows that the Solution Scope artifact is part of the Change Strategy artifact. Change Strategy includes exactly 1 Solution Scope. This means that whenever a Change Strategy changes (as the result of the Define Change Strategy operation), then the included Solution Scope must be updated also. An aggregation is a type of dependency. It can be thought of as the part artifact takes the same operations and inputs as the whole artifact.



Figure 8: Example Whole-Part Relationship

• When an artifact is a specific type of another artifact, the artifacts are connected by a generalization relationship and the specific artifact takes all the attributes, operations and dependencies of that general artifact. Figure 9: captures the 'type of' relationship in the model. It shows that a Solution Recommendation is a type of Design Option. This means that a Solution Recommendation includes all the elements of a Design Option plus those elements listed in its own class. [Note: Generalization is a stronger bond than aggregation. Whereas aggregation includes only the operations and inputs in the part artifact, generalization includes the elements and outputs as well.]



Figure 9: Example Generalization Relationship

# **1.3 Deviations from the BABOK**

This section describes where the model deviates from the BABOK, along the reasons for those differences.

## 1.3.1 Aggregation

The idea of whole/part relationships is not explicitly called out in the BABOK. By recognizing where the whole artifact changes that the associated part artifacts may also change, saves repeating dependencies and tasks across multiple artifacts. (An aggregation relationship does not imply whether a change to an element in the whole has an impact on the part, but it could do. To be safe, everytime the whole changes, the parts should be checked in order to determine if there is an impact.) These are the instances of aggregation in the model:

- Current State Description includes many Business Requirements.
- Change Strategy includes one Solution Scope.
- Future State Description includes one Potential Value and many Business Objectives.
- Requirement and Design Option both include many Traceability artifacts. See Figure 11: for an explanation of Traceability.

## 1.3.2 Generalization

Figure 10: shows that the Solution Recommendation artifact is a type of Design Option, using a generalization relationship. It takes all the attributes(elements) and operations(tasks) of a Design Option.



Figure 10: Solution Recommendation Is A Type of Design Option

## 1.3.3 Non-Consumed Artifacts

Requirements Change Assessment and Design Change Assessment have been added as an input to the Maintain Requirements task. These two artifacts are output from the Requirements Change Assessment task, yet they are not consumed by any task in BABOK. Resolution of requirements and design change assessments is necessary to complete the BA work. (I.e. this resolution is the responsibility of the BA.) Therefore, these artifacts need to be consumed at some point during the BA process. The Maintain Requirements task is the mostly likely candidate consumer of Requirements and Design Change Assessment artifacts.

## 1.3.4 New Stakeholder

An Enterprise Architect role has been introduced into the model. The Enterprise Architect is an expert on the computer systems architecture within the organization. They will advise on design aspects of the solution and assess any impacts the solution has on the existing architecture. BABOK suggests that the Implementation SME performs this role. Experience indicates that the Implementation SME and Enterprise Architect are 2 different roles with perhaps some overlap in responsibility (although there are circumstances where they may be played by the same person), In cases where there may be conflict between a particular design solution and the overall enterprise architecture, these roles should be played by different people. [Note that the Enterprise Architect role was introduced as a consumer of Requirements. If BABOK was to introduce this role, there are many other occurrences in the model where the Enterprise Architect plays the part of a worker. The role of an Enterprise Architect as a worker is out of scope for this work.].

## 1.3.5 Changes to Artifacts

- The Design Change Assessment and the Requirements Change Assessment artifacts have been combined into a single Change Assessment artifact. The reasoning is that both change assessment artifacts took the same inputs, outputs, tasks, guidelines and tools, techniques and elements.
- The Traceability artifact (see Figure 11:), has been introduced since it is neither wholly included in Requirements, nor in Design Options. It is a product of the Requirement to Design Option relationship and is therefore a part of both artifacts. It is modeled as its own class of artifact, and becomes a part of both the Requirement and the Design Option artifacts.



+Validate Requirement() +Maintain Requirements() +Prioritize Requirements() +Approve Requirements()

Figure 11: Traceability Artifact Relationships

## **1.4 BABOK Definitions and Interpretations**

Some assumptions and clarifications of the BABOK are explained below.

The following is an overview of how this model interprets those definitions.

## 1.4.1 Business Analyst

Defines needs and recommends solutions that deliver value to stakeholders. A business analyst is any person who performs business analysis tasks described in the BABOK® guide.

1.4.1.1 Interpretation

The definition of a business analysis suggests that anyone who performs a task that is described in the BABOK may call themselves a business analyst (BA), while they are performing that task. Tasks are well-defined and bounded in the BABOK, so there is little room for confusion about the scope of the task. I assume that in order to be playing the part of a BA that the actor must be responsible for the output from that task and not just taking part, such as performing a technique. (For example, during the creation of a business analysis planning approach, Jo is asked to organize and take notes from a brainstorming session. Jo is not acting as a business analyst unless Jo is also responsible for documenting the results of the brainstorming session in the planning approach.)

## 1.4.2 Stakeholders

Each task includes a list of stakeholders who are likely to participate in the execution of that task or who will be affected by it.

## 1.4.2.1 Interpretation

A stakeholder is an individual or group that a business analyst is likely to interact with directly or indirectly while performing business analysis tasks. The stakeholder definition includes all the roles that participate or receive the output from a task.

The model identifies 2 types of stakeholder:

- Workers who participate in the creation of an artifact.
- Consumers are the stakeholders that take delivery of an artifact. (I.e. once an artifact is delivered to a consumer the BA is no longer responsible for that artifact, unless something changes.)

In this model the emphasis is placed on the consumer. The workers are included to assist with satisfying the consumers.

## 1.4.3 Artifacts

The core content of the BABOK® Guide is the task. Tasks are organized into knowledge areas. Artifacts are the inputs to and outputs from these tasks. BABOK defines an artifact as – Any solution relevant object that is created as part of business analysis efforts.

## 1.4.3.1 Interpretation

This work describes a model that is focused on objects (object-oriented), where an object represents an artifact. Its structure uses the inputs and outputs of BABOK tasks as the primary foundation for work that is performed (as opposed to using tasks). Consistency with the BABOK is ensured, since every task, technique, tool, guideline and stakeholder described by the BABOK, is involved with the creation of 1 or more artifacts. The artifacts are classed into 3 types:

- External Inputs These artifacts are consumed by the BA tasks, but not produced by the BA.
- BA Consumables These artifacts are produced by the BA and also consumed by BA. These artifacts are a means to producing external deliverables.
- External Deliverables These are the artifacts that are consumed by the stakeholders. External deliverables are the artifacts that have been agreed upon with the stakeholders, and as such are the most important aspects of the business analyst's work.

## 1.4.4 Guidelines and Tools

Guidelines and Tools are resources that are required to transform the input into an output. A guideline provides instructions or descriptions on why or how to undertake a task. A tool is something used to undertake a task.

## 1.4.4.1 Interpretation

BABOK does not distinguish between guidelines and tools. It is assumed that any information that is used by a task can be considered a guideline/tool and not just those listed in the BABOK. Guidelines/tools may also be artifacts.

# 1.5 How the BABOK is Re-Organized

What is not obvious from the BABOK is the answer to the question - who is the Consumer of an artifact? (I.e. who is it that is gaining benefit from the BA performing a task and producing one or more artifacts.) An object-oriented view provides a way to structure, understand and maintain a system based upon the 'things' that play a part in the process. By focusing on artifacts instead of functions, the reader gains a picture of the true value to the stakeholders (in particular the consumers of the external BA deliverables). The value to the business is determined by the artifacts that are consumed by stakeholders outside of the BA process. This value can be determined by observing the elements of an artifact and its relationships and comparing this to the tasks, guidelines and tools, stakeholders and inputs required to produce the artifact.

By encapsulating tasks, guidelines and tools, techniques, stakeholders, elements and relationships into classes, allows the reader to more easily assess the impact of making a change to a specific artifact.

An object-oriented model allows different perspectives of the BABOK content to be presented. For example, the reader may look at artifacts from an actor's point of view, or view techniques, guidelines and tools in terms of the artifacts that use them. In order to add these extra dimensions to the BABOK, its content has been captured using a modeling tool (Visual Paradigm). [Note: It is not feasible to present every possible view in this work. The model allows views to be created upon request.]

# 1.6 Summary of the Model

This model prioritizes the BABOK, according to the following criteria.

- #1 focus is on the consumer. Who is gaining benefit from the outputs of each task? Every artifact will be input to a task whose purpose is to produce artifacts that will ultimately be delivered to a consumer. Therefore the consumer of an artifact is either the business analyst or it is a stakeholder. By tracing the flow of information through the model, we can identify the benefits to the business.
- #2 focus is on deliverables. Deliverables are the outputs from each task. If the BA is performing a task which produces no deliverable then we may want to question, what is the benefit that this task is providing to the business? [Note that every task in the BABOK produces at least 1 output, so there is no conflict with the BABOK is this regard.]
- #3 focus is on the components that go to make up these deliverables. In the BABOK these components are described under the title of elements.
- #4 focus is on the task that is used to produce that deliverable.
- #5 focus is on the inputs to a task. Notice that when the consumer of a task is the Business Analyst then we have identified an input to a subsequent task. (The reasoning is that BAs do not ultimately deliver business value to themselves on a project. However a BA may deliver an output to another BA on a different project. An existing design might be an example.)

- #6 focus is techniques, guidelines and tools.
- #7 focus is on the workers. (These are given low priority because although the identified stakeholders will probably be solicited during the performance of the task, in reality it is difficult to nail down who is playing which stakeholder role. Anyone from the organization may be solicited to provide input to any deliverable. My advice is to look at the elements that comprise the artifact, and invite anyone with valuable knowledge to contribute, as necessary.)
- #8 focus is on knowledge areas. Since the knowledge areas are containers for tasks, in an object-oriented model, some artifacts are found in multiple knowledge areas.

## 1.7 Structure

Figure 12: shows a template for the structure of the model. The central point of reference is the artifact.

- Artifacts are captured with classes.
- Consumers are represented by actors.
- A consumer is either:
  - A stakeholder in which case the artifact is an external deliverable.
  - $\circ$  The BA in which case the artifact is used as input to another task.
- Elements that make are the artifact, are described by attributes.
- The tasks that produce the deliverable, are described as operations.
- Tasks are detailed with use cases.
- Tasks are the responsibility of the BA.
- Guidance and tools are described by objects that are linked to the artifact.
- Techniques used during the creation of the artifact are described by use cases.
- Workers that contribute to the artifact are captured as actors.
- Knowledge areas are packages that contain the artifacts.



Figure 12: Model Structure Template

## 1.8 Deliverables

An external deliverable is an artifact that is the responsibility of the BA to deliver to a stakeholder. An external deliverable provides work for one or more stakeholders. (Artifacts that are only consumed by the BA are not considered deliverables). Since every artifact is delivered to a consumer, any artifact that is described by the BABOK, but not used by the BA must be delivered to a stakeholder. These deliverable artifacts are included in the deliverables Table 1.

A list of the BA deliverables from the BABOK, and their stakeholders, is shown in Figure 13:



Figure 13: Deliverables to Stakeholders

Table 1: Table of Stakeholder Deliverables describes the relationships and justification for each deliverable to a stakeholder.

Deliverable	Justification for the deliverable
Supplier – Delivers Solutions For -> Requirement	When a solution is partially delivered by an external vendor, then requirements will be created that are specifically written for their portion of the solution.
Implementation SME - Develops Solution For -> Requirement	The implementation teams takes delivery of the requirements and build a solution as specified by the requirements. The implementation subject matter expert represents the developers.
Domain SME - Assesses Business Impact	The domain subject matter expert uses the requirements to identify and prepare for changes to

Table 1: Table of Stakeholder Deliverables

Of -> Requirement	business operations.
Project Manager - Plans Solution Delivery Against -> Requirement	The project manager uses requirements to plan the activities and tasks performed during implementation and delivery of the solution.
Tester - Validates Deliverables Against -> Requirement	Testers may take delivery of the requirements as soon as they are approved, in order to begin planning the testing effort and writing acceptance criteria against which the solution will be validated.
Operational Support - Assesses Operational Impact Of -> Requirement	New features may impact existing business applications. Operational support will assess the requirements to determine changes to existing business operations as a result of the solution.
Requirement - Include -> A Solution Recommendation	The recommended solution is delivered along with the requirements.
Enterprise Architect - Assesses Architectural Impacts Of ->	A solution that builds upon existing systems will have an impact on the performance and architecture of those systems. The enterprise systems architect is able to assess those impacts and determine

Recommended Solution	additional work that is the result of implementing the solution.
Any Stakeholder – Receives -> Business Analysis Information	Any information that is delivered to a stakeholder during business analysis activity is covered by Business Analysis Information, such as elicitation results, potential requirements or designs, solution scope or proposed strategies.
Customer - Assesses -> Recommended Action	During requirements analysis, the BA will make recommendations that change or add to the original business needs. The customer will determine how the business needs are impacted.
Any Stakeholder – Plans Work Against -> Stakeholder Engagement	Stakeholder engagement describes the demands that will be placed on each stakeholder during the business analysis process.
Project Manager - Manages -> Risk Analysis Results	Risks are discovered during elicitation and analysis of requirements. Risks are generally managed by the project manager, with advice from the BA.
Project Manager – Determines Impact of - > Change Assessment	A project manager uses the Change Assessment to determine the impact to the project delivery.

Part 2 of this article describes how these external deliverables are produced. It details the elements, tasks, guidelines, tools, stakeholders, and techniques used to manage every artifact contained in the BABOK. Part 2 is located <u>here</u>.