

*David Odepidan Business
Analysis Community*

**REQUIREMENT ANALYSIS
&
DESIGN DEFINITION
BABOK® v3 SERIES, EP 6**

David. O

Ice-Breaker

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CBAP Exam Blueprint

Knowledge Areas (KA)	% of Questions per KA
1. Business analysis planning and monitoring	14%
2. Elicitation and collaboration	12%
3. Requirements life cycle management	15%
4. Strategy Analysis	15%
5. Requirements analysis and design definition	30%
6. Solution Evaluation	14%

INTRODUCTION

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This knowledge area describes the tasks that business analysis professionals perform to structure and organize **requirements** discovered during **elicitation activities**, specify and model requirements and designs, validate and verify information, identify solution options that **meet business needs**, and estimate the **potential value** that could be realized for each solution option.

Both requirements and designs are important tools used by business analysts to define and guide change. **The main difference between requirements and designs is in how they are used and by whom.** One person's designs may be another person's requirements. Requirements and designs may be either high-level or very detailed based on what is appropriate.

INTRODUCTION

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The business analyst's role in **modelling needs, requirements, designs, and solutions** is instrumental in conducting thorough analysis and communicating with other stakeholders.

The form, level of detail, and what is being modelled are all dependent on the context, audience, and purpose.

Business analysts analyze the potential value of both requirements and designs. In collaboration with implementation subject matter experts, business analysts define solution options that can be evaluated in order to recommend the best solution option that meets the **need and brings the most value.**

Design Option

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A design option usually consists of many design components, each described by a design element. **Design elements may describe**

- business policies and business rules, business processes to be performed and managed,
- people who operate and maintain the solution, including their job functions and responsibilities
- operational business decisions to be made, software applications and application components used in the solution
- organizational structures, including interactions between the organization, its customers, and its suppliers

BACCM MODEL

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The Business Analysis Core Concept Model™



Core Concept

Change: the act of transformation in response to a need.

Need: a problem or opportunity to be addressed.

Solution: a specific way of satisfying one or more needs within a context.

Stakeholder: a group or individual with a relationship to the change, the need, or the solution.

Value: the worth, importance, or usefulness of something to a stakeholder within a context.

Context: the circumstances that influence, are influenced by, and provide understanding of the change.

During Requirements Analysis and Design Definition, business analysts...

transform elicitation results into requirements and designs in order to define the change.

analyze the needs in order to recommend a solution that meets the needs.

define solution options and recommend the one that is most likely to address the need and has the most value.

tailor the requirements and designs so that they are understandable and usable by each stakeholder group.

analyze and quantify the potential value of the solution options.

model and describe the context in formats that are understandable and usable by all stakeholders.

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Requirements Analysis and Design Tasks

Specify and Model Requirements

Describes a set of requirements or designs in detail using analytical techniques.

- **Verify Requirements**

Ensures that a set of requirements or designs has been developed in enough detail to be usable by a particular stakeholder, is internally consistent, and is of high quality.

- **Validate Requirements**

Ensures that a set of requirements or designs delivers business value and supports the organization's goals and objectives.

Tasks

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Define Requirements Architecture

Structures all requirements and designs so that they support the overall business purpose for a change and that they work effectively as a cohesive whole.

- **Define Solution Options**

Identifies, explores, and describes different possible ways of meeting the need.

- **Analyze Potential Value and Recommend Solution**

assesses the business value associated with a potential solution

Guidelines and Tools

- **Modelling Notations/Standards:** allow requirements and designs to be precisely specified, as is appropriate for the audience and the purpose of the models. **Modelling Tools** software products that facilitate drawing and storing matrices and diagrams to represent requirements.
- **Requirements Architecture:** the requirements and interrelationships among them can be used to ensure models are complete and consistent.
- **Requirements Life Cycle Management Tools:** software products that facilitate recording, organizing, storing, and sharing requirements and designs.
- **Solution Scope:** the boundaries of the solution provide the boundaries for the requirements and designs models

Techniques

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Acceptance and Evaluation Criteria used to represent the acceptance and evaluation criteria attributes of requirements.

- **Business Capability Analysis** used to represent features or functions of an enterprise.
- **Business Model Canvas** used to describe the rationale for requirements.
- **Business Rules Analysis** is used to analyze business rules so that they can be specified and modelled alongside requirements.
- **Concept Modelling** is used to define terms and relationships relevant to the change and the enterprise.
- **Data Dictionary** is used to record details about the data involved in the change. and usage.

Outputs

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In many IT environments, the word 'design' is used specifically for technical designs created by software developers, data architects, and other implementation subject matter experts. All business deliverables are referred to as 'requirements'.

In addition to the models used to represent the requirements, this task also includes capturing information about attributes or metadata about the requirements. The specifying and modelling activities relate to all requirement

types

Verifying requirements

A high-quality specification is well-written and easily understood by its intended audience. A high-quality model follows the formal or informal notation standards and effectively represents reality.

The most important characteristic of quality requirements and designs is fitness for use. They must meet the needs of stakeholders who will use them for a particular purpose.

Quality is ultimately determined by stakeholders

Verification activities are typically performed iteratively throughout the requirements analysis process

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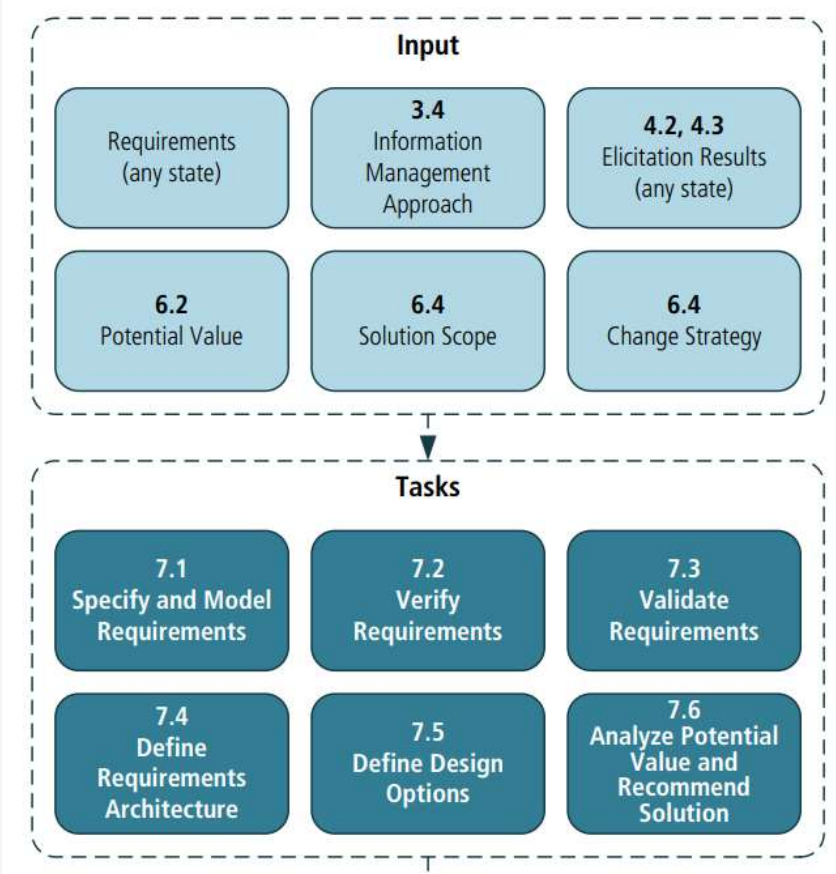
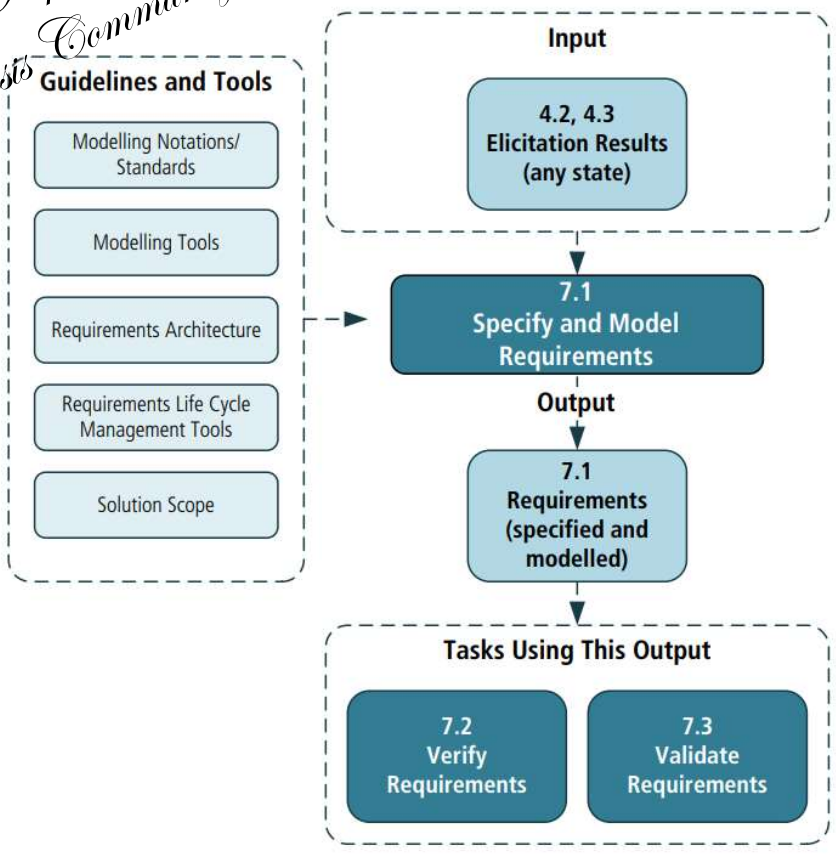
checking for compliance with organizational performance standards for business analysis, such as using the right tools and methods,

- **checking for correct use** of modeling notation, templates, or forms,
- **checking for completeness** within each model, ensuring the terminology used in expressing the requirement is **understandable to stakeholders and consistent** with the use of those terms within the organization
- Comparing each model against other relevant models, checking for elements that are mentioned in one model but are missing in other models, and verifying that the elements are referenced consistently

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Relationship between Input & Output



Relationship between Input & Output

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Input and Output Relationships

	Information Management Approach	Requirements (prioritized)	Requirements (verified)	Elicitation Results (any state)	Requirements (specified and modelled)	Requirements (validated)	Potential Value	Solution Scope	Change Strategy	Requirements Architecture	Design Options	Solution Recommend
Specify and Model Requirements and Designs				Input	Output							
Verify Requirements and Designs			Output		Input							
Validate Requirements and Designs					Input	Output						
Define Requirements Architecture	Input	Input						Input		Output		
Define Design Options			Input			Input			Input	Input	Output	
Analyze Potential Value and Recommend Solution							Input				Input	Output

Techniques

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- **Data Flow Diagrams:** used to visualize data flow requirements.
 - **Data Modelling:** used to model requirements to show how data will be used to meet stakeholder information needs.
 - **Decision Modelling:** used to represent decisions in a model to show the elements required for decision-making.
 - **Functional Decomposition:** used to model requirements to identify constituent parts of an overall complex business function.
 - **Glossary:** used to record the meaning of relevant business terms while analyzing requirements.

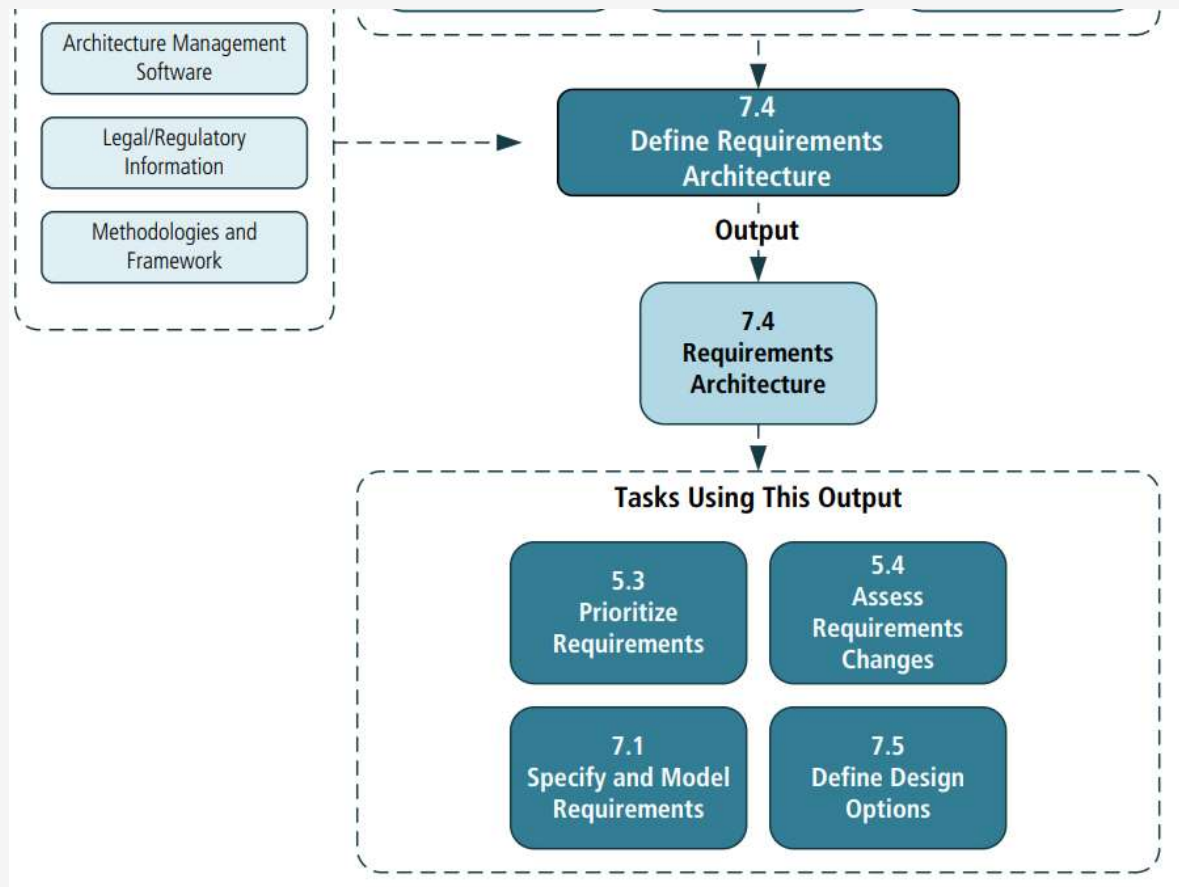
Techniques

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- **Interface Analysis:** used to model requirements in order to identify and validate inputs and outputs of the solution they are modelling.
- **Non-Functional Requirements Analysis:** used to define and analyze the quality of service attributes
- **Organizational Modelling:** used to allow business analysts to model the roles, responsibilities, and communications within an organization.
- **Process Modelling:** used to show the steps or activities that are performed in the organization, or that must be performed to meet the desired change
- **Prototyping:** used to assist the stakeholders in visualizing the appearance and capabilities of a planned solution.

Requirements architecture

A requirements architecture fits the individual models and specifications together to ensure that all of the requirements form a single whole that supports the overall business objectives and produces a useful outcome for stakeholders.



Requirements architecture

Business analysts use a requirements architecture to:

- understand which models are appropriate for the domain, solution scope, and audience,
- organize requirements into structures relevant to different stakeholders,
- illustrate how requirements and models interact with and relate to each other, and show how the parts fit together into a meaningful whole,
- ensure the requirements work together to achieve the overall objectives, and
- make trade-off decisions about requirements while considering the overall objectives

Stakeholders

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Stakeholders

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- **Customer:** represents the market segments affected by the requirements and solutions, and will be involved in analyzing the benefit of those requirements and costs of the design options.
 - **Domain Subject Matter Expert:** may be called upon for their domain knowledge to assist in analyzing potential value and benefits, particularly for those requirements where they are harder to identify.
 - **End User:** provides an insight into the potential value of the change.
 - **Implementation Subject Matter Expert:** may be called upon for their expertise in implementing the design options in order to identify potential costs and risks

Stakeholders

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Connect

www.davidodepidan.com