

# ADAPTIVE US

# CCBA® V3

# Study Guide

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Preparation Effort**



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It does not warrant that use of this publication will ensure passing the CCBA® examination.

## Introduction

As the book title suggests, this book is a guidebook for the aspirants of the CCBA® examination from IIBA®, Canada. We value your time and hence the book is designed to be extremely specific – Help you pass the certification examination with least possible effort.

This book is authored by qualified CCBA® trainers who have helped many other participants clear the CCBA® examination in the very first attempt. They are also regular trainers for CCBA® preparations in both corporate and open-hose workshops and have trained participants across the world – USA, Australia, Middle East, South East Asia, Europe and Africa.

Now CCBA® examination is based on BABOK® v3.0 and so is this book. This book presents BABOK® concepts in a tabular format which is easy to understand.

## Feedbacks and suggestions on the book

We will be glad and thankful if you can share your feedbacks and suggestions on the book. Please send your feedbacks and suggestions to [Info@AdaptiveUS.com](mailto:Info@AdaptiveUS.com).

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# 1.Preface and Introduction



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## 1.1 What is Business Analysis?

BABOK®V3 definition:

*Business analysis is the practice of enabling [positive] change in an enterprise [organization] by defining needs [problems and opportunities] and recommending solutions that deliver value to stakeholders.*

Business analysts enable an enterprise to articulate its needs, establish rationale for the change and to describe solutions those deliver value. Business analysis can be performed within a project or across the enterprise. It can be used to understand the current state, define future state and determine activities required for transition. Business analysis can be performed from various perspectives like agile, business intelligence, information technology, business architecture, business process management etc.

## 1.2 Who is a Business Analyst?

*Anyone who performs Business analysis tasks mentioned in BABOK® is considered a Business analyst, irrespective of his/her job title or organizational role.*

Business analysts elicit actual needs of stakeholders, not simply capture expressed desires. They are also responsible for discovering and analysing information from various sources. Common job titles for business analysts are business architect, system analyst, requirements engineer, process analyst, management consultant, product manager etc. Business analysts help organizations define the optimal solutions for their needs, given the set of constraints (time, budget, regulations etc.).



## 1.3 What is IIBA®?

International Institute of Business analysis (IIBA®) was founded in Toronto, Canada in October of 2003 to support the Business analysis community by:

- Creating and developing awareness and recognition of the value and contribution of the business analyst.
- Defining the Business Analysis Body of Knowledge.
- Providing a forum for knowledge sharing and contribution to the business

- analysis profession.
- Publicly recognizing and certifying qualified practitioners through an internationally acknowledged certification program.

## 1.4 What is BABoK®?

Business Analysis Body of Knowledge (BABoK®) contains a description of *generally accepted practices* in the field of business analysis. It gives a guidance on the skills and knowledge that business analysts must possess. Contents of BABoK® have been verified thoroughly by practitioners. *BABoK® does not mandate that practices described should be followed under all circumstances. Any BABoK® practices MUST be tailored to the specific business analysis contexts.*



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## 1.5 What and Why of CCBA®?

CCBA® stands for Certification of Capability in Business Analysis, 2<sup>nd</sup> level certification provided by IIBA® for business analysts with 2 to 3 years of business analysis experience.

Benefits of becoming a CCBA® :

- Be recognized for your competency in business analysis.
- Business analysis is the fastest growing career opportunity for IT professionals.
- People with domain experience can move into IT sector by becoming a business analyst.
- Better job prospects.
- Better salary.

## 1.6 Target Audience for CCBA®

CCBA® examination targets the following audience:

- Current ECBA™

- Developing business analysts
- Hybrid business analysts (PMs, testers, QA, change managers, designers)
- Product owners/managers
- Non-BA consultants

## 1.7 Eligibility for CCBA®

- Minimum 3750 hours of business analysis-related work in the last 7 years.
- Professional development: 21 hours of verifiable BABOK® coursework in the last 4 years. Adaptive US is an authorized EEP of IIBA®, its trainings provide desired PDUs for the CCBA® certification examination.
- References: Two references. (One must be current). References can be Client, Career manager or a CBAP®.
- Minimum 900 hours in each of the 2 knowledge areas or 500 hrs in each of 4 knowledge areas.
- Signed code of conduct.

## 1.8 CCBA® Question pattern

- This will be a scenario based examination.
- Situations are usually described in 2-4 sentences. Some questions can have up to 10 sentences.
- 130 Multiple guess questions
- 3 hours

**Examination weightage – KA wise**

Domain	% Distribution
Business analysis planning and monitoring	12%
Elicitation and collaboration	20%
Requirements life cycle management	18%
Strategy analysis	12%
Requirements analysis and design definition	32%
Solution evaluation	6%

**Additional Information**

- Application expires within 1 year from approval.
- 3 exams can be taken within a year without requiring any waiting time in between.
- First time exam fee is \$325 for members and \$450 for non-members.
- Retake fee is \$250 for members and \$375 for non-members.

**Certification process**

- Take required training from a reputed IIBA® EEP, such as Adaptive US. [AdaptiveUS.com](http://AdaptiveUS.com).
- Study Adaptive CCBA® study guide.
- Become an IIBA® member.
- Benefits include free, unlimited access to the BABOK® and 300+ online books, local, national and international networking opportunities and ability to influence the growth and direction of the Business analysis profession.
- Download BABOK® and read it thoroughly.
- Join a study group or start one.
- Begin preparing for the application.
- Complete all tests provided in Adaptive Question Bank.

### **Preparing the application**

- ✓ Begin the application at least 2 weeks before you plan to apply.
- ✓ It can take anywhere from 6-10 hours to complete.
- ✓ Download and use Adaptive CCBA® application simulator.
- ✓ Apply within 3 to 6 months of when you plan to write.
- ✓ You can refer CCBA® page for a detailed application process at IIBA® web-site.

### **1.9 Details about the exam provider - PSI**

The CCBA certification exam will be delivered through [PSI Exams](#).

#### **Advantages of PSI Exam Provider**

- Convenience to take the exam from one's home / office using one's computer as well as from test centers
- Ability to schedule certification exams using Single Sign On access directly from the IIBA portal after paying the exam fee.
- Saves travel time and cost when the exam is taken remotely.
- A great boon for cities and countries where there are no Prometric centers.
- Comes at a much more convenient time – The exam process runs 24 by 7 – There's more flexibility to schedule the exam time. Only 24-hours' notice is required to schedule remote online proctoring.
- Greater flexibility in rescheduling the test – One can re-schedule the test 24 hours prior without any additional cost.
- Re-scheduling within 24 hours will cost \$50 instead of the previous cost of \$100.

#### **Aspects to be ensured if one is taking the exam from home/office:**

- Exam takers need to have the provision for the infrastructure
- Need Reliable High-Speed Internet with power back up
- Need a computer with camera

**Precautions during the proctored test if one is taking the test from home/office**

- Need to have Chrome browser installed on your system
- Keep your Government Approved ID card to show the proctor using your computer's camera
- Proctor may not allow breaks during the test
- Need a clean and distraction free room
- No phone or disturbances during the exam
- No lip movements/muttering or gestures will be allowed during the exam
- Food, beverages (i.e water, including chewing gums) may not be permitted
- No scheduled breaks during the exam will be permitted
- Do not read the questions with lips, or whisper loudly
- There should not be any movement in/out of the room during the test

**Other information**

- Option elimination (strikeout) feature which was there in Prometric is not there in PSI

**1.10 Tips for the CCBA® Certification Examination**

- Please keep in mind that CCBA® is a test on your knowledge of BABOK®, not your knowledge on BA practice as you may be following in your workplace.
- Answers need to be as per BABOK®.
- Focus on requirements analysis, elicitation and requirements lifecycle management
- Have a mind-map of BA activities, inputs and outputs. Adaptive BABOK mind map serves as a great aid to remember tasks, inputs, outputs etc.
- Questions are scenario based
- Questions are pretty much straightforward.

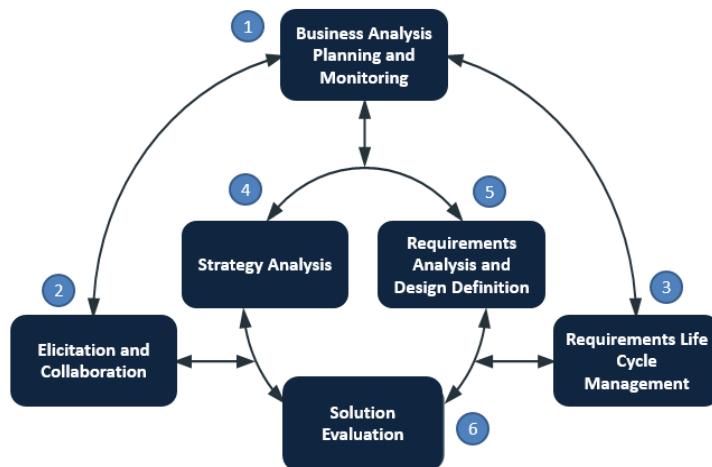
- No long descriptive questions. However, there are questions with diagrams.
- No long answers. All questions have single statement answers.
- Focus on purpose of the tasks
- Understand strengths and weaknesses of techniques
- Questions are expected to be 3 to 5 sentences long
- Understand various roles
- Understand how techniques help in task goal achievement
- Understand requirements characteristics
- Few questions on inputs and techniques for task
- Understand types of tracing requirements
- Observe time elapsed against progress made – Target 50 questions per hour
- Mark questions for review
- Do not get nervous with the first few questions
- Avoid answers which are prescriptive. BABoK® does not provide any specific level of rigor to be adopted in any activity.
- Be careful with answers which say something should be 100% or 0% - It's very hard to find such digital options in life.
- Avoid terms which are not mentioned in BABoK®. Such a term can be technically correct, for example a specific company may have a Work Breakdown System – however BABoK® does not have any such term. BABoK® term is Work breakdown structure.
- Multiple options can be technically correct; choose the BEST option.
- Do not trust long lists.
- Do not overeat just before test
- Go to the rest room prior to the test
- Stay cool!

## Knowledge areas

*Knowledge areas represent areas of specific business analysis expertise. There are 6 knowledge areas in BABoK®.*

#	Knowledge Areas	Description
1	Business analysis planning and monitoring	Tasks Business analysts perform to organize and coordinate efforts of Business analysis and stakeholders.
2	Elicitation and collaboration	Tasks Business analysts carry out to Prepare for elicitation, Conduct elicitation activities, Confirm results, Communicate and collaborate with stakeholders.
3	Requirements life cycle management	Tasks Business analysts perform to manage and maintain requirements and design information from start till end.
4	Strategy analysis	Tasks Business analysts perform to identify a need of strategic or tactical importance, how to collaborate and enable stakeholders to address that need etc.
5	Requirements analysis and design definition	Tasks Business analysts carry out to organize elicited requirements, model them, validate and verify them and identify and estimate Potential value of solution options
6	Solution evaluation	Tasks Business analysts perform to assess the performance and value delivered by a solution

Diagram below depicts the relationships between different knowledge areas:



## Tasks

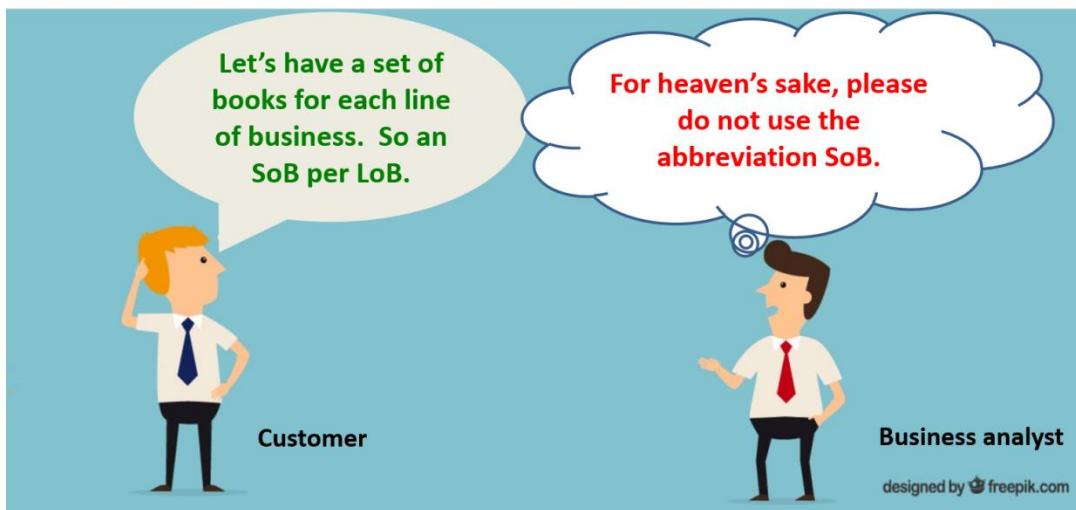
A task is an essential piece of work to be performed as part of business analysis. There is no upper limit to the number of times any task may be performed. Tasks may be performed at any scale – from few minutes to few months. Tasks are structured in the following manner:

<b>Purpose:</b> Short description as to why a task is performed and the value derived from it.		
<b>Inputs</b>	<b>Stakeholders</b>	<b>Outputs</b>
This section lists the inputs for a task which will lead to outputs	This section lists stakeholders who are likely to participate in a task	This section lists the results produced by performing a task
<b>Guidelines and Tools:</b> This section lists resources which are required to transform input into output.		
<b>Techniques:</b> This section lists the techniques that can be used to perform the Business analysis task		

**Connotations of commonly used terms in BABoK**

BABoK Terms	Connotations
Approach	<i>BA Plan</i>
BA information	<i>Requirements + Other info</i>
BA governance	<i>Requirements management</i>
BA governance approach	<i>Requirements management plan</i>
Needs	<i>Problems and opportunities</i>
Change	<i>Project</i>
Enterprise	<i>Organization</i>
Architecture	<i>Structure</i>
Design	<i>Solution</i>
Needs	<i>Problems and opportunities</i>
Change	<i>Project</i>
Enterprise	<i>Organization</i>
Architecture	<i>Structure</i>
Design	<i>Solution</i>

## 2. Business analysis Key Concepts



### 2.1 Key Terms

Business analysis information	Broad and diverse set of information at any level of detail which are analyzed, transformed and reported during business analysis. e.g.: elicitation results, requirements, solution options etc.
Design	A usable representation of a solution.
Enterprise	A system of one or more organizations and the solutions they use to pursue a shared set of common goals.
Organization	An autonomous group of people which work towards achieving common goals and objectives.
Plan	Proposal for doing or achieving something.
Requirement	Usable representation of a need.
Risk	Effect of uncertainty on the value of a change, solution or enterprise.

## 2.2 Requirements Classifications

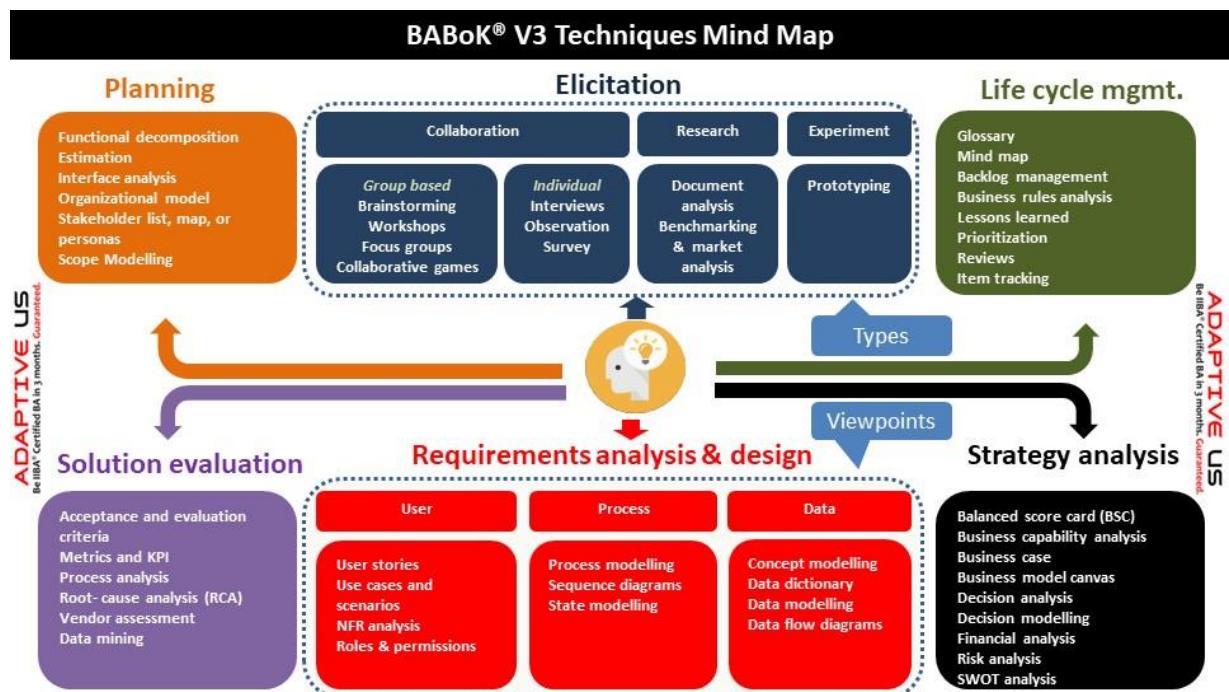
<i>Business requirements</i>	<i>Goals, objectives and outcomes which indicate the reason for initiating a change.</i>
<i>Stakeholder requirements</i>	<i>Stakeholder needs which must be met to achieve business requirements.</i>
<i>Solution requirements</i>	<i>Capabilities and qualities of a solution that meets stakeholder and business requirements. Broadly classified into:</i> <ul style="list-style-type: none"><li>• <i>Functional requirements – Typically pertain to data, UI, process, logic etc.</i></li><li>• <i>Non-functional requirements or quality of service requirements.</i></li></ul>
<i>Transition requirements</i>	<i>Capabilities that the solution must possess in order to facilitate transition from current state to future state. Key examples are data migration and training.</i>

## 2.3 Stakeholders

Individuals or groups with whom business analysts interact directly or indirectly. They are major sources of requirements, assumptions or constraints.

Stakeholder	Role
Business analyst	Default stakeholder in all Business analysis activities.
Customer	Has a contractual right. May use products or services produced by enterprise.
Domain Subject Matter Expert (SME)	People with in-depth knowledge of a topic relevant to business need or solution scope. E.g. Managers, Process owners, Consultants etc.
End user	Those who directly use the product or solution.
Implementation SME	Has specialized knowledge pertaining to implementation of solution components. Examples: Change manager, Solution architect, Information architect etc.
Operational support	Responsible for managing and maintaining systems.
Project manager	Ensures project objectives are met considering several project factors. Manages work required to deliver a project.
Regulator	Define and enforce standards.
Sponsor	Authorizes work to be done, controls the budget and scope of the initiative.
Supplier	Provides products or services to the organization.
Tester	Determines whether the solution meets requirements and quality standards.

## 2.4.BABOK® V3 Techniques Mind Map



## Knowledge Area Wise Summary of BABOK® V3 Techniques

Techniques	Purpose of the technique	Strengths	Limitations	Key elements
<a href="#">Functional decomposition</a>	Functional decomposition breaks down a large aspect (processes, functional areas, deliverables, scope, or problems) into smaller aspects, as independent as possible, so that work can be assigned to different groups. This reduces complexity of analysis.	Helps to manage complex problems by breaking them into parts. Provides shared understanding of complex matters. Helps in estimation.	No way to be certain that all components have been captured. Missing or incorrect elements can lead to re-work. Not understanding of relationships between pieces can create an inappropriate structure. Need deep subject knowledge and collaboration with stakeholders.	Aspects those can be decomposed are: Business outcomes, Work to be done Business processes, Functions, Business units Solution components, Activities, Products and services, Decisions

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<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
<a href="#"><u>Estimation</u></a>	Estimation techniques are used for better understanding of possible range of costs and efforts associated with any change.	Better decisions based on an improved understanding costs and time. Teams provide a better estimate than a single individual.	Stakeholders treat estimates as commitments. Using a single estimation method can set undue expectations. Accuracy depends on knowledge level about elements. Often altered to match desires of influential stakeholders.	Types of estimation: <ul style="list-style-type: none"> <li>• Top-down</li> <li>• Bottom-up</li> <li>• Parametric</li> <li>• Rough order of magnitude (RoM) / Ball park</li> <li>• Rolling wave</li> <li>• Delphi</li> <li>• PERT (Program Evaluation Review Technique)</li> </ul>
<a href="#"><u>Interface analysis</u></a>	An interface is a connection between 2 components or solutions. Identify interfaces and interactions between solutions and/or solution components	Helps in identifying stakeholders for elicitation. Early identification leads to increased functional coverage. Interfaces specifications provide a structured means of allocating requirements, business rules and constraints to the solution. Avoids over analysis of fine details owing to its broad application.	Does not provide insight into internal components / other aspects of solution.	Types of interface: <ol style="list-style-type: none"> <li>1. User interfaces - Users interacting with system plus reports.</li> <li>2. Data interfaces between systems.</li> <li>3. Application programming interfaces (APIs).</li> <li>4. Hardware devices.</li> <li>5. Business processes.</li> <li>6. External partners.</li> </ol>

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<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
<a href="#"><u>Organizational modelling</u></a>	Organizational modelling describes roles, responsibilities, and reporting structures that exist within an organization, and aligns those structures with organization's goals. Visual representations of organizational units.	Common in most organizations. Enables future projects to know participants involved and their roles. Helps to identify influencers in organization.	Out of date at times. Does not tell about real influencers in the organization.	3 Types of org. models  1. Functional  2. Market oriented  3. Matrix
<a href="#"><u>Stakeholder list, map, or personas</u></a>	Identify stakeholders affected by a proposed initiative or share a common business need, level of decision-making authority, authority within domain and organization, attitude/ interest towards change, and Business analysis work.	Identifies stakeholders for requirements elicitation. Helps to engage all stakeholder groups. Useful to understand changes in impacted groups over time Assist in analyzing stakeholders and their characteristics Helps to identify all possible sources of requirements	Those who continuously work with same stakeholders may not use stakeholder analysis technique as they don't feel much change will happen in their respective team. Assessing influence and interest of specific stakeholders can be complicated and risky.	RACI Matrix:  Responsible Accountable Consulted Informed
<a href="#"><u>Scope modelling</u></a>	Describe scope of analysis or scope of a solution. They serve as a basis for defining and limiting scope of Business analysis and project work	Help in defining contractual obligations. Helps in project effort estimation. Provide justification of In-scope/Out of scope decisions. Help in assessing completeness and	At a high-level. Scope change can be difficult due to political and contractual obligations. Wrong assumptions, changing needs, technological advancements can	Scope model can include:  1. Business processes, functions, capabilities to be defined or modified. Use cases to be supported. 2. Technologies to be changed. 3. Organizational roles

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<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
		impact of solutions.	change scope.	and units impacted. 4. Events to be responded to and impacted. 5. Systems, tools, assets required for change or impacted by change
<a href="#"><u>Brainstorming</u></a>	One or group of stakeholders deliberate on an idea to produce numerous new ideas in a non-judgmental environment, and to derive themes for further analysis.	Excellent way to foster creative thinking as ideas are not judged. Fun, engaging, and productive. Generate many ideas in a short time. Useful to reduce tension between participants.	Depends on participants' creativity and willingness to participate. Participants must agree to avoid debating / criticizing ideas during brainstorming.	Steps for brainstorming:  Prepare Conduct session Wrap-up
<a href="#"><u>Workshop</u></a>	Requirements workshop, also known as JAD (Joint application design) session, is a highly productive focused event attended by carefully selected key stakeholders, and SMEs for a short, intensive period (typically 1 or a few days).	Get detailed requirements in a short time. Means for stakeholders to collaborate  Costs are lower than cost of performing multiple interviews  Immediately validate facilitator's interpretation.	Highly dependent on expertise of facilitator, and knowledge of participants.  Too many participants can slow down workshop process.  Not collecting inputs from all participants can lead to overlooking of important requirements.	Roles during the workshop:  Sponsor Facilitator Scribe Time keeper Participants
<a href="#"><u>Focus group</u></a>	Elicit ideas, impressions, preferences, and needs and attitudes from <i>pre-qualified individuals</i> about a	Learning people's attitudes, experiences and desires.  Encourages active participation and	Unwillingness to discuss sensitive or personal topics.  What people say is inconsistent with how they actually	Can be carried out for products under development, to be launched, in production

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<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
	specific product, service or opportunity in an interactive group environment. Guided by a moderator. Typically, 1 to 2 hours with 6-12 attendees.	discussion. Online focus groups works best when participants are distributed geographically.	behave. Homogeneous groups do not represent complete set of requirements. Skilled moderator needed. Can't read body language in online focus groups.	
<a href="#"><u>Collaborative games</u></a>	Uses game playing techniques to collaborate in developing common understanding of a problem or a solution. Involves strong visual or tactile (activities) elements such as moving sticky notes, writing on whiteboards, or drawing pictures.	Identifies hidden assumptions or differences of opinions. Encourages creative thinking. Participants play a more active role. Exposes needs that aren't being met.	Can be perceived as silly and unproductive. Uncomfortable for reserved participants.	Example collaborative games:  Product box Affinity map Fishbowl
<a href="#"><u>Interview</u></a>	Most common form of elicitation technique where interviewers ask questions to stakeholders. Effective interviewers control discussions understand needs from ALL stakeholders, probe deeper when needed and ensure completeness of answers.	Encourages participation. Builds rapport Simple and direct. Allows discussions and explanations and non-verbal behavior.  Allows follow-up and probing questions to confirm understanding. Allows interviewees to express opinions in private.	Needs significant time. Needs commitment and involvement of participants. Needs trained facilitator. Subject to interviewer's interpretation. Unintentionally leading the interviewee.	Interview success depends on:  1. Interviewer skills a. Domain understanding b. Documentation skills c. Experience and willingness 2. Interviewee a. Readiness to provide relevant information b. Clarity about interview goal 3. Rapport between interviewer and interviewee

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<a href="#"><u>Observation</u></a>	Elicit information by observing activities and their contexts.	Documenting details about current processes. When stakeholders are unable to express requirements well. Provides realistic and practical insight into business processes. Identify non-documented informal tasks or work-arounds. Recommendations for improvement are based on evidence.	Possible for existing processes only. Time-consuming and can be disruptive. Participants may alter work practices when observed. Can't evaluate knowledge-based activities.	Observation types:  Active/Noticeable– Ask questions during process. Interrupts work flow but helps in gaining a quick understanding. Passive/Unnoticeable – Ask questions at end. Do not interrupt work.
<a href="#"><u>Survey or questionnaire</u></a>	Administers a set of written questions to stakeholders and SMEs. Survey can elicit information from many people, sometimes anonymously, in a relatively short period of time. Can collect information about customers, products, work practices and attitudes. Alternatively, respondents are provided with a series of statements and asked for their level of agreement.	Quick and inexpensive to collect information from a large audience. Does not require significant time from stakeholders. Effective and efficient when stakeholders are not located in one location. Closed-ended surveys are effective in statistical analysis. Open-ended surveys can provide insights and opinions.	Open-ended surveys require more analysis. Specialized skills in statistical sampling methods required. Questions left unanswered or answered incorrectly due to their ambiguity. Follow up questions or more survey iterations may be required. Response rates can be too low for statistical significance.	Survey questions can be Open ended or close ended.
<a href="#"><u>Document</u></a>	Elicit Business	Analysis without	Limited to "AS-IS"	Steps for document

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<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
<a href="#"><u>analysis</u></a>	analysis information, by examining materials describing business environment or organizational assets. Document analysis helps in understanding context of a business need or understanding how existing solutions are implemented. Based on Business analysis information being explored, purpose, scope and topics to be researched are determined.	creating new content. Useful when SMEs are not available. Determine what is current and what has changed. Results can be to validate against results of other elicitation techniques. Findings can be presented in easy to understand formats.	perspective. May not be up-to-date or valid. Authors may not be available for clarification. Time-consuming.	analysis:  1.Prepare 2.Perform document review and analysis 3.Record findings
<a href="#"><u>Benchmarking and market analysis</u></a>	Benchmarking compares organizational practices against best-in-class practices from competitors, government, industry associations or standards.  Market analysis understands customers' needs, factors influencing purchase decisions, and studies competitors.	Provides information about new methods, ideas, and tools to improve.  Target specific groups and products to answer specific needs.  Determine when to enter or exit a market.  Expose weaknesses within a certain company or industry.  Identify differences in product offerings and services available from competitors.	Time-consuming and expensive.  Need expertise to conduct analyze gathered information.  Benchmarking can't produce innovative solutions.  Needs proper market segmentation.	Key principle: No criticism.

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<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
<a href="#"><u>Prototyping</u></a>	<p>Provides an early model of final result, widely used for product design.</p> <p>Details UI requirements and integrates them with other requirements such as use cases, scenarios, data, and business rules.</p> <p>Stakeholders often find prototyping to be a concrete means of identifying, describing and validating their interface needs.</p> <p>Prototypes can discover desired process flow and business rules.</p>	<p>Supports users who are more comfortable and effective at articulating their needs by using pictures.</p> <p>Early user interaction and feedback.</p> <p>Throw-away prototypes are inexpensive to quickly uncover and confirm a variety of requirements.</p> <p>Proof of concepts demonstrate technical feasibility.</p>	<p>Can take considerable time if process gets bogged down by "how's" rather than "what's". Assumptions about underlying technology needs to be made for functional prototype.</p> <p>Users may develop unrealistic expectations</p> <p>Users may focus on design specifications than requirements.</p>	<p>Throw-away prototype</p> <p>Evolutionary or Functional prototype</p>
<a href="#"><u>Glossary</u></a>	<p>Comprises of key terms relevant to a business domain to provide a common understanding of terms. Contains definitions and synonyms. Needs to be organized and be accessible to all stakeholders.</p>	<p>Promotes communication and common understanding of business domain.</p> <p>Encourages consistency as single reference source for business terms.</p> <p>Simplifies writing and maintenance of Business analysis information.</p>	<p>Requires dedicated persons to maintain.</p> <p>Challenging to get stakeholder agreement on a single definition for a term.</p>	<p>What glossary should contain:</p> <ol style="list-style-type: none"> <li>1. Unique to a domain.</li> <li>2. Multiple definitions.</li> <li>3. Commonly used meaning is different from that which is used within domain.</li> <li>4. Chance for misunderstanding.</li> </ol>
<a href="#"><u>Mind Map</u></a>	<p>Articulates and captures ideas in a non-linear (tree) structure. Ideas are grouped as topics,</p>	<p>Collaboration and communication tool.</p> <p>Structures complex thoughts, ideas,</p>	<p>Can be misused as a brainstorming tool.</p> <p>Can become complex with details.</p>	

<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
	sub-topics, further sub-sub-topics. Mind maps use words, images, color, and connections to structure thoughts, ideas, and information.	and information. Facilitate understanding and decision making. Enable creative problem solving.		
<a href="#"><u>Backlog management</u></a>	Backlogs record, track and prioritize remaining work items. Backlog management is a planned approach to manage remaining work for project. In managed backlogs, items at top have highest business value and priority. Backlog items can be user stories, use cases, defects, CRs, risks etc.	Prioritization for changing needs. Elaborate and estimate in detail ONLY priority items. Tells what items need to be worked on and what items can wait.	Large backlogs can be difficult to manage. Needs experience to break down items for accurate estimate. Lack of details can result in lost information over time.	
<a href="#"><u>Business rules analysis</u></a>	Business policies dictate actions of an enterprise and people in it by broadly controlling, influencing, or regulating them. Business rules serves as a criterion for guiding behavior and making decisions in a specific, testable manner.	An enterprise-wide rules engine can assist in quick implementation of rules changes. Centralized rules repository enables reuse. Allows organizations to make changes to policies without changing processes.	When combined, rules can be lengthy, inconsistent or produce unanticipated results. Poorly defined vocabulary can result in inaccurate or contradictory business rules.	1.Use business terminology for validation. 2.Documented independently from enforcement. 3.Stated in declarative format at atomic level. 4. Maintained in a manner enabling monitoring and adaption as they change.
<a href="#"><u>Lessons learned</u></a>	Discusses and documents	Identifies areas of improvement.	Can become blame game.	Discuss Business analysis activities & deliverables,

<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
	successes, failures and improvement recommendations for future phases or projects. Can include any format or venue that is acceptable to key stakeholders. Can be formal facilitated meetings or informal.	Assists in building team morale. Reinforces positive experiences. Reduces risks for future projects. Recognizes strengths or shortcomings.	Lack of willingness to discuss and document problems. Facilitation required to ensure discussions remain focused on solutions and improvement opportunities.	Final solution, service, or product, Automation introduced or eliminated, Impact to organizational processes, Performance expectations and results, Root causes impacting performance results
<u>Prioritization</u>	Provides a framework for stakeholder decisions to understand relative importance of requirements. Importance may be based on value, risk, difficulty of implementation etc.	Helps in consensus building and trade-offs. Ensures maximum solution value. Assists in meeting initiative timelines.	Stakeholders often avoid difficult choices and do not make trade-offs. Solution team may try to influence prioritization by over estimating complexity of certain requirements. Lack of defined metrics may make it subjective.	Techniques for prioritization:  Grouping Ranking Time boxing/ Budgeting Negotiation
<u>Review</u>	Communicate, verify and validate content of work products, formally or informally. Communicate review objectives in advance to participants.	Promotes stakeholder discussions and involvement for quality output. Identifies defects early. Desk checks and pass around reviews are convenient.	Rigorous team reviews can be time consuming. Informal reviews are more practical but may not ensure removal of significant defects. Difficult to validate whether prior independent review in desk check and pass around reviews. Can lead to repeated revisions if changes are not carefully managed.	Purpose of review:  Remove defects Check conformity to specifications or standards Check completeness Quality measurement Reach consensus on approach or solution Issue resolution Alternative exploration Education of reviewers

<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
			Sharing and discussing review comments over e-mail can elongate approval process.	
<a href="#"><u>Item tracking</u></a>	Captures and assigns responsibility for issues and stakeholder concerns. Items can refer to actions, assumptions, constraints, dependencies, defects, enhancements and issues.	Stakeholder concerns are tracked and resolved. Allows to rank importance of outstanding items.	Can be expensive to capture and track items. Consumes productive time. Stakeholders could become mired in details and statistics.	<ul style="list-style-type: none"> <li>• Item identifier: Unique ID</li> <li>• Summary</li> <li>• Category &amp; Type</li> <li>• Date identified</li> <li>• Identified by</li> <li>• Impact</li> <li>• Priority</li> <li>• Status etc.</li> </ul>
<a href="#"><u>Balanced scorecard</u></a>	A strategic planning and management tool to measure organizational performance beyond traditional financial measures aligned to organization's vision and strategy.	Monitor progress against objectives and adapt strategy as needed. Balanced planning and thinking. Encourages forward thinking and competitiveness.	Lack of clear strategy can make aligning dimensions difficult. Stakeholders may perceive this as the only tool for strategic planning than one tool among many. Misinterpreted as a replacement for strategic planning, execution and measurement.	4 dimensions of balance score card are:  Learning and growth dimension Business process dimension Customer dimension Financial dimension
<a href="#"><u>Business capability analysis</u></a>	Capability maps provide a graphical view of capabilities. Capabilities describes ability of an enterprise to act on or transform something that helps achieve a	Create focused and aligned initiatives by providing a shared outcomes, strategy, and performance. Align business initiatives across multiple units of	Requires a broad, cross-functional collaboration in defining capability model and value framework. No set standards for notation of capabilities maps.	

<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
	business goal or objective. Capabilities describe outcome of performance or transformation, not how it is performed.	the organization.		
<a href="#"><u>Business case</u></a>	Formally or informally, justify investments based on estimated value compared to cost. Spend time and resources on business case proportional to the size and importance of its potential value. Business cases do not provide intricate details.	Integrated view of facts, issues, and analysis. Financial analysis of costs and benefits. Guides decision making.	Subject to biases of authors. Often not updated after funding. Assumptions wrt costs and benefits may be invalid.	Steps:  1. Define needs. 2. Determine desired outcomes. 3. Assess constraints, assumptions, and risks. 4. Recommend solutions.
<a href="#"><u>Business model canvas</u></a>	Comprises 9 building blocks describing how an organization intends to deliver value. As a diagnostic tool, use elements of the canvas as a lens into current state of business, especially wrt relative amounts of energy, time, and resources currently invested in various areas.	Easy to understand and simple to use. Widely used and effective framework to understand and optimize business models. Maps of programs, projects, and other initiatives to the strategy of the enterprise.	Does not account measures for social and environmental impacts. Does not provide a holistic insight for strategy. Does not include strategic purpose of enterprise.	The 9 building blocks:  1. Key partnerships 2. Key activities 3. Key resources 4. Value proposition 5. Customer relationships 6. Channels 7. Customer segments 8. Cost structure 9. Revenue streams
<a href="#"><u>Decision analysis</u></a>	Supports decision-making in complex, difficult, or uncertain situations. Examines	Determines expected value of alternative scenarios.	Requires knowledge of probability. Information may not be available on time.	Values, goals and objectives relevant to decision problem. Nature of decision to be

<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
	and models possible consequences of different decisions.	Assesses importance placed on different alternatives. Assesses options based on objective criteria rather than emotions. Constructs suitable metrics to compare financial and non-financial outcomes.	Decisions may have to be taken immediately at times. Tendency to treat results of decision analysis as more certain than they actually are.	made. Areas of uncertainty that affect decision. Consequences of each possible decision.
<a href="#"><u>Decision modeling</u></a>	Show how repeatable business decisions are made using data and knowledge.	Easy to share and understand. Facilitate shared understanding. Support impact analysis. Multiple perspectives can be shared and combined, especially when a diagram is used. Decision tables help in managing large numbers of parameters. Helps with reuse. Helps in rules-based automation, data mining, predictive analytics and BI projects.	Unnecessary for simple decisions coupled to process. Practices may differ from model. Difficult to obtain agreement on cross-functional rules. Needs clearly defined business terminology to avoid data quality issues for process automation	
<a href="#"><u>Financial analysis</u></a>	Explore financial aspects (benefits and costs) of an investment.	Objective (quantitative) comparison of investments. Assumptions and estimates are clearly stated.	Costs and benefits are difficult to quantify. Numbers give false sense of security.	Cost of change Total cost of ownership (TCO) Opportunity cost Sunk cost Net benefit Return on investment

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<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
		Reduces uncertainty by identifying and analyzing influencing factors.		Payback period Discount rate Free cash flow
<a href="#"><u>Risk analysis</u></a>	Identify, analyze and evaluate uncertainties that could negatively affect value, develop and manage way of dealing with risks.	Can be applied at multiple levels - strategic, tactical or operational. Successful risk responses on one initiative can be useful for others. Ongoing risk management helps to re-evaluate risks and suitability of planned responses.	# of possible risks can become unmanageably large. Possible to manage only a subset of potential risks. Often significant risks are not be identified.	Risk management techniques are:  Avoid Transfer Mitigate Accept Increase
<a href="#"><u>SWOT analysis</u></a>	SWOT is an acronym for Strengths, Weaknesses, Opportunities, and Threats. A framework for strategic planning, opportunity analysis, competitive analysis, business, and product development.	Helps quickly analyze various aspects of current state, and environment prior to identifying potential solution options. Focusing on factors which add value to business.	High-level view, needs further analysis. Clear context needed to stay within focus.	Strengths and weaknesses are internal, while Opportunities and Threats are external.
<a href="#"><u>Concept modelling</u></a>	Organizes business vocabulary, usually starting with glossary.	Makes precise communication. Independent of data design biases. Helps in reducing ambiguity.	Requires abstract thinking skill. Need tool support for strict implementation.	Organizing, managing and communicating core knowledge, Need to capture large numbers of business rules, Stakeholders find it hard to understand data models, Regulatory or

<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
				compliance challenges.
<a href="#"><u>Data dictionary</u></a>	Standard definitions of primitive data elements, their meanings, allowable values, how those elements combine into composite data elements. Used to manage data within a solution's context, often used along with ER diagrams.	Ensures stakeholders agreement on format and content of relevant information. Ensures consistent usage of data elements.	Can become obsolete unless maintained. Needs maintenance to ensure quick and easy retrieval. Metadata required by multiple scenarios must be taken into account.	Data elements can be primitive or composite
<a href="#"><u>Data modelling</u></a>	Data model describe entities, classes or data objects relevant to a domain, their attributes and relationships among them.	Helps in consistent vocabulary. Ensures logical design of persistent data correctly represents business needs. Consistent approach to analyze and document data and its relationships. Can be at different levels of detail. Can expose missing requirements.	Requires background in software. Typically beyond knowledge of an individual stakeholder.	Levels of data models 1. Concept 2. Logical 3. Physical
<a href="#"><u>Data flow diagram</u></a>	Show transformation of data from (data source such as external sources, activities and destination). Data used in DFDs should be described in a data dictionary. Highest level diagram (Level 0) is	Depict transaction-based systems and boundaries of a system. To discover processes and data. Verify functional decompositions or data models. Excellent way to define scope and	Can become complex for large-scale systems. Different DFD notations exist. Can't show sequence of activities, logic or stakeholders.	

<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
	context diagram represents the entire system.	interfaces. Helps in effort estimation. Easy to understand. Helps to identify duplicate or missing data elements.		
<a href="#"><u>Process modelling</u></a>	Graphical model to describe sequential flow of activities. A system process model defines sequential flow of control among programs or units within a computer system. A program process flow shows sequential execution of program statements within a software program.	MOST stakeholders understand process models. Can be at multiple levels. Can show large number of scenarios and parallel branches. Identifies overlooked stakeholder groups. Identify potential improvements Documentation for compliance. Used for training and coordination of activities. Used as a baseline for continuous improvement. Provides transparency and clarity to process owners	Formal process models perceived as document-heavy approach. Can become extremely complex and unwieldy. Single individual will not be able to understand and 'sign off' a complex process. Can't show process problems just from model. In a highly dynamic environment, process models can become obsolete quickly. Stakeholders often alter processes to meet their needs without updating the model.	1.Describes context of solution or part of solution, 2.Describes current (as is), or is desired (to be) process, 3. Provides a visual to accompany a text description and 4. Provides a basis for process analysis.
<a href="#"><u>Sequence diagram</u></a>	Sequence diagrams (also known as event diagrams) model logic of usage scenarios, by showing information (also known as	Shows interactions between objects in visual and chronological (time) order. Refines use cases	Creating sequence diagram for every use case can be a waste of time and effort. Fairly technical.	

<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
	stimuli, or message) passed between objects during execution of a scenario.	with more details.		
<a href="#"><u>State modelling</u></a>	State models (also sometimes called a state transition model) describe and analyze different possible states (formal representation of a status) of an entity within a system, how that entity changes from one state to another and what can happen to entity when it is in each state.	Identifies business rules and information for entity being modelled. Identifies activities that apply to entity at different states.	Consumes time and effort. Obtaining consensus is time-consuming.	1. Set of possible states (Statuses) for an entity, 2. sequence of states that entity can be in, 3. how an entity changes from one state to another, 4. events and conditions that cause entity to change states and 5. Actions that can or must be performed by entity in each state as it moves by its life cycle.
<a href="#"><u>User stories</u></a>	User stories are a brief textual description, typically 1 or 2 sentences, of functionality that users need from a solution to meet a business objective. User story describes actor (who uses story), goal they are trying to accomplish, and any additional information to be critical to understanding scope of story.	Easily understood. Prioritizing, estimating and planning solutions. Focuses on value to stakeholders. Results in shared understanding of domain by collaboration while developing user stories. Facilitates rapid delivery and feedback by small, implementable, and testable slices of functionalities.	Can prove to be a challenge due to lack of detailed specifications. Requires context and visibility. Should be supplemented with higher level analysis and artifacts. Regulatory restrictions, or when organization mandates documentation.	Parts of user story: 1. Title 2. Statement of value. 3. Conversation 4. Acceptance criteria

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Techniques	Purpose of the technique	Strengths	Limitations	Key elements
<a href="#"><u>Use cases and scenarios</u></a>	Scenarios, and use cases describe how actors (a person or a system) interacts with a solution to accomplish one or more of that person or systems goals.	Good at clarifying scope, and providing a high-level understanding of requirements. Narrative flow of use case description makes it easy to understand. Use case description articulates functional behavior of a system.	Written at higher-level of abstraction (low level of detail). Flexible format of use cases may result in capturing inappropriate or unnecessary details. Additional analysis and design required to identify include use cases.	
<a href="#"><u>Non-functional requirements analysis</u></a>	Examines requirements for a solution that define how well functional requirements must perform. Also known as quality attributes or quality of service requirements. Expressed in textual formats as declarative statements or in matrices.	Provides measurable expressions of how well functional requirements must perform. States constraints applicable to functional requirements.	Difficult to articulate and define than functional requirements. Usefulness depends on how well stakeholders can express their needs. Getting agreement on NFRs can be difficult. Overly stringent NFRs significantly increase cost and effort for development. Difficult to measure and test.	NFR categories are: Availability, Compatibility Functionality, Maintainability, Performance efficiency, Portability, Reliability, Scalability, Security, Usability, Certification Compliance, Localization, Extensibility
<a href="#"><u>Roles and permissions matrix</u></a>	Ensures coverage of activities by denoting responsibility, to identify roles, and to discover missing roles.	Provides procedural checks and balances, and data security, by restricting individuals from performing certain or all actions.	Need to recognize required level of detail for a specific initiative or activity. Too much detail can be time consuming, too little detail can exclude necessary	Initiative level roles and responsibilities with RACI matrix  IT system roles and responsibilities with CRUD (Create, Read, Update and Delete)

<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
		Promotes improved review of transaction history, in that audit logs can capture details about any assigned authorities at time. Provides documented roles and responsibilities for activities.	roles.  matrix.	
<u>Acceptance and evaluation criteria</u>	Acceptance criteria describe minimal set of requirements to be met for a solution to be worth implementing, also known as Must Have requirements. Typically used when evaluation only one possible solution and is expressed as pass or fail. Must be testable.	Agile methodologies require requirements to be expressed as testable acceptance criteria. Express contractual obligations. Evaluation criteria help in assessing diverse needs and defining priorities.	Difficult to change for legal or political reasons. Achieving consensus is challenging.	
<u>Metrics and key performance indicators (KPIs)</u>	Measure performance of solutions, solution components and other matters of interest to stakeholders. A metric is a quantifiable level of an indicator to measure progress. A target metric is objective to be reached within a specified period.	Allows stakeholders to understand extent to which a solution meets an objective. Facilitates organizational alignment, linking goals to objectives, supporting solutions, underlying tasks and resources.	Can be expensive, bureaucratic, and useless. Can distract from key responsibilities, especially on agile projects. Mostly no feedback is provided to stakeholders collecting metric data as to understand how their actions are affecting quality of project results.	Properties of indicators:  1. Clear: Precise and unambiguous. 2. Relevant: Appropriate to the concern. 3. Economical: Available at reasonable cost. 4. Adequate: Provides a sufficient basis on which to assess performance. 5. Quantifiable: Can be independently validated. 6. Trustworthy and Credible: Based on evidence and research.

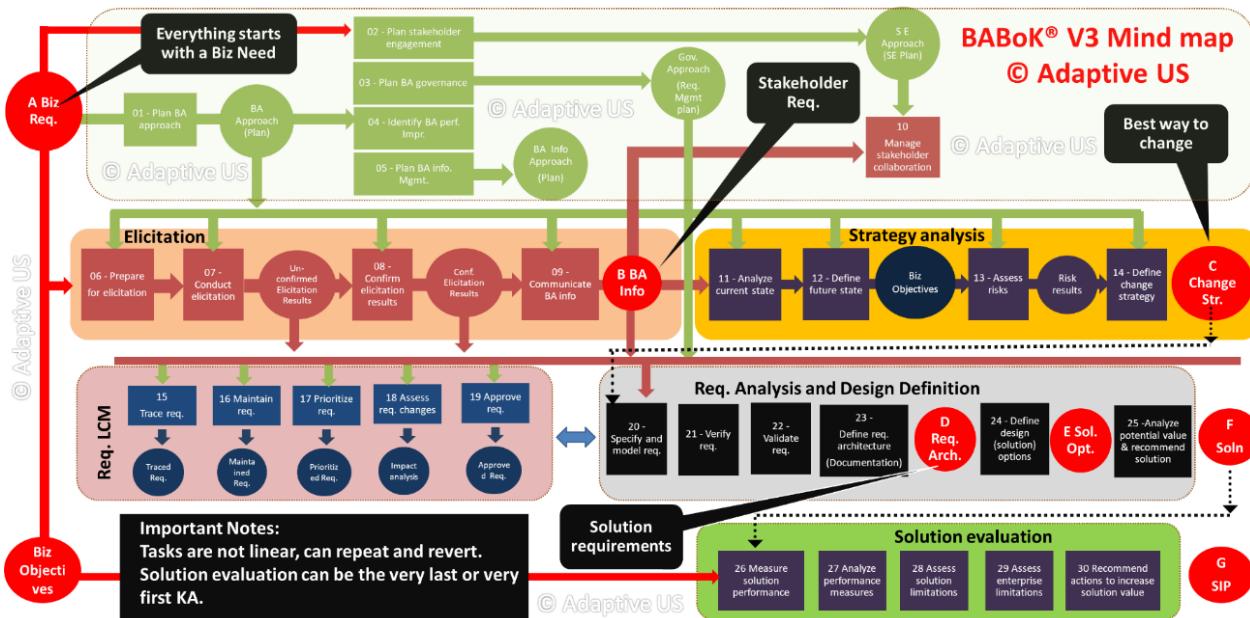
<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
			Can lead to sub-optimal performance when metrics are used to assess performance.	
<a href="#"><u>Process analysis</u></a>	Analyzes processes for their effectiveness, efficiency, and identifies improvement opportunities.	Ensures solution addresses right issues. Minimizes waste. Flexibilities wrt techniques and methodologies.	Time-consuming. Challenging to decide which approach to use and how rigorously to follow them. Not very effective in knowledge or decision-intensive processes.	
<a href="#"><u>Root cause analysis</u></a>	Identify and evaluate underlying causes of a problem, looking into causes occurring due to people, physical or organizational effects. Reactive analysis: For corrective action. Proactive analysis: For preventive action.	Structured method to identify root causes. Helps to come up with effective solutions.	Need formal training or extensive experience to facilitate a team of experts. Prove to be difficult with complex problems.	Steps for RCA are:  1. Problem Statement Definition 2. Data Collection 3. Cause Identification 4. Action Identification

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<b>Techniques</b>	<b>Purpose of the technique</b>	<b>Strengths</b>	<b>Limitations</b>	<b>Key elements</b>
<a href="#"><u>Vendor assessment</u></a>	Assess ability of a potential vendor to meet commitments wrt delivery and consistent provision of a product or service.	Ensures vendor is reliable and organization expectations are met. Reduces risk of choosing an unsuitable vendor. Improved long-term satisfaction with decision.	Time-consuming to gather sufficient information on multiple vendors. Risk of failure as partnership evolves cannot be prevented. Subjectivity may bias evaluation outcome.	Aspects to be careful:  Choose licensing and pricing models Determine product reputation and market position Determine terms and conditions Determine vendor reputation Determine vendor stability
<a href="#"><u>Data mining</u></a>	Finds useful patterns and insights from large amounts of data, usually resulting in mathematical models. Utilized in either supervised (user poses a question) or unsupervised (pure pattern discovery) investigations.	Reveals hidden patterns and insights. Increased accuracy of data and decision. Reduce human bias.	Requires specialist knowledge. Takes considerable effort. Can result in erroneous correlations. May lead to accidental misuse. Resistance to use of advanced math and lack of transparency.	Steps:  Elicit requirements Data preparation: Analytical dataset Analyze data Modelling techniques Deployment

## BABOK® V3 Tasks Mind Map



### 3. Business Analysis Planning and Monitoring



#### Purpose of the BA Planning and Monitoring Knowledge Area

Organize and coordinate efforts of business analysts and stakeholders.

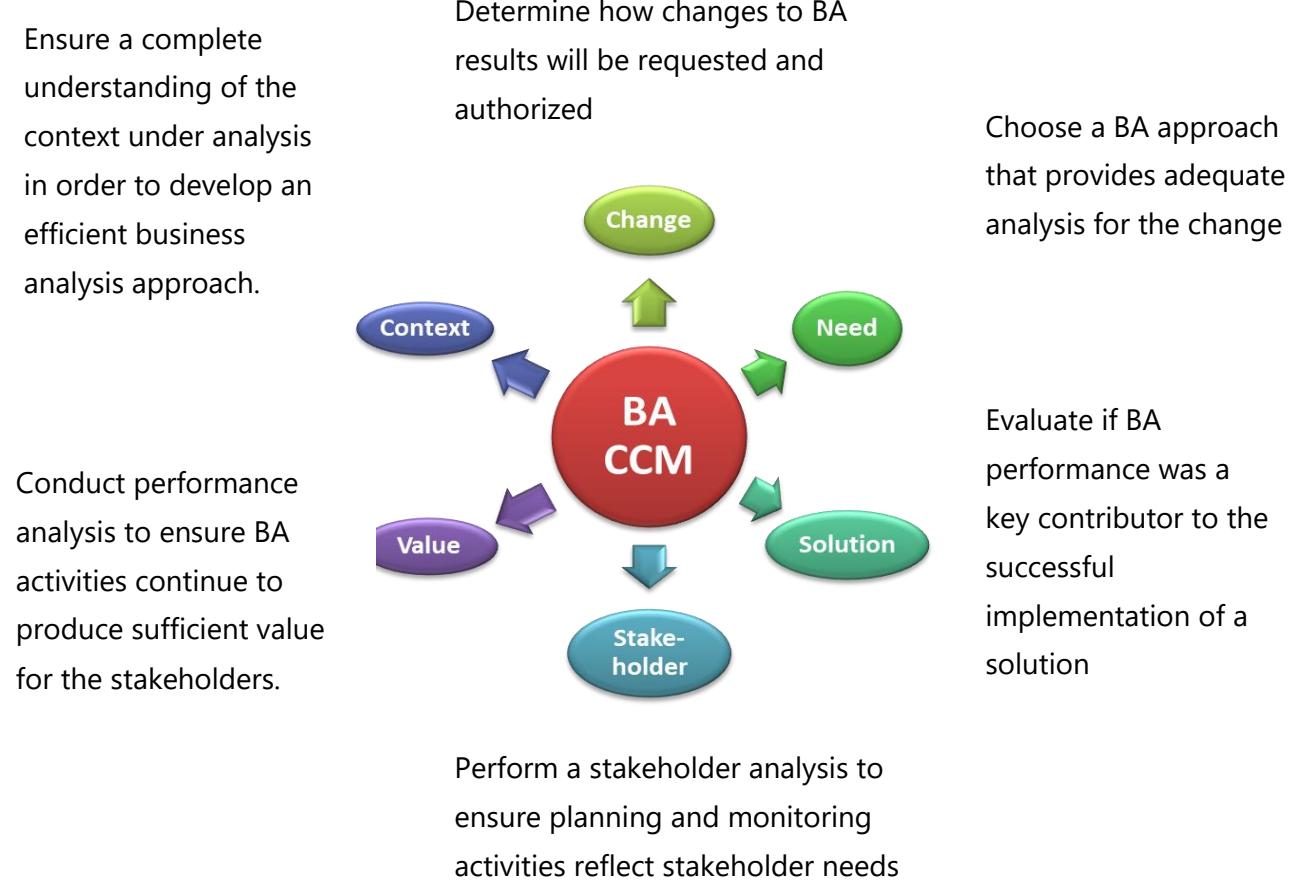
#### 5 Tasks:



## Guidelines and Tools

Guidelines and tools	Description
Business analysis performance assessment	Provides results of previous assessments that can be used for further planning.
Business policies	Defines limits within which decisions must be made.
Change strategy	Plan to transition from the current state to the future state and achieve the desired business outcomes.
Current state description	Provides context within which the work needs to be completed. Can also be used to determine risks associated with the current state.
Expert judgment	Expertise available from different sources such as stakeholders, Centers of Excellence, consultants etc.
Information management tools	Tools to store, retrieve and share Business analysis information.
Legal / Regulatory information	Legislative rules or regulations that must be followed.
Methodologies and frameworks	Predetermined set of models and relationships between the models, to be used to represent different viewpoints (various requirements levels such as business requirements, stakeholder requirements and solution requirements).
Organizational performance standards	Business analysis performance metrics or expectations mandated by the organization.
Stakeholder engagement approach	Collaboration and communication approach to engage with stakeholders.

## Core Concept Model in Business Analysis Planning and Monitoring



### 3.1 Plan Business analysis Approach

<b>Purpose:</b> To define an appropriate method to conduct business analysis activities (Tasks, Schedule, Responsibilities and Techniques).		
Inputs	Stakeholders	Outputs
Needs	Domain subject matter expert, Project manager, Regulator, Sponsor	Business analysis approach
<b>Guidelines and Tools:</b> Business analysis performance assessment, Business policies, Expert judgment, Methodologies and frameworks, Stakeholder engagement approach.		
<b>Techniques:</b> Brainstorming, Business cases, Document analysis, Estimation, Financial analysis, Functional decomposition, Interviews, Item tracking, Lessons learned, Process modelling, Reviews, Risk analysis and management, Scope modelling, Survey or Questionnaire, Workshops.		

Business analysis approach may be defined by organizational standards or by a methodology. Organizations usually have formal or informal standards regarding how to conduct Business analysis and how it fits into project and other activities. Review existing organizational process assets and tailoring aspects relating to the initiative. These may suggest or mandate the business analysis approach.

If no standards exist, work with appropriate stakeholders to determine the Business analysis approach. Work with the Project manager and project team, to ensure that the Business analysis approach is suitable. If a change is implemented through a project approach, Business analysis approach is defined during project planning phase.

Business analysis approach should:

1. Align with the goals of the change,
2. Coordinate business analysis tasks with activities and deliverables of the overall change,
3. Have risk mitigation tasks, and Make use of proven tools and techniques,
4. Meet organizational process needs objectives for the initiative.

Tailor standard Business analysis approaches for the initiative as per organizational process tailoring guidelines. Business analysis approach is often based on or related to the project approach but can also be independent. For example, one can use a predictive approach to define its business processes and then use an adaptive approach to build the supporting software applications.

### **Determine Business Analysis Planning Approach (*Plan*)**

Factors affecting Business analysis approach are:

1. Prior experience,
2. Organization standards,
3. Tolerance for uncertainty,
4. Complexity and risk of change,
5. Regulations pertaining to the industry,
6. Geographic distribution of stakeholders,
7. Staff experience level and turnover,
8. Contractual needs,
9. Intent to re-use Business analysis information etc.

Plans should be revised based on changing business conditions.

**Comparing Predictive and Adaptive Approaches**

<b>Attribute</b>	<b>Predictive (Waterfall)</b>	<b>Adaptive (Agile)</b>
Focus	Minimize upfront risk, maximize control	Rapid delivery in short iterations
Planning	Heavily loaded in planning phase	Distributed over iterations
Approval Authority	Sponsor	Designated person
Applicable situation	Complex, Very high cost of failure, well-defined requirements ahead of implementation is possible, challenging stakeholder interactions	Low cost of failure, requirements amorphous
Level of detail	High	Low
Change management	Formal process through standardized template  Accept change only when justified	Through prioritized product backlog, time box driven
Communication	Formal, Documented, Periodic	Informal, Verbal, Frequent
Documentation	Formal  Prior to implementation	Through interactions and flexible  Formal documentation post implementation for maintenance
Requirements prioritization	Low Emphasis	High Emphasis

<b>Attribute</b>	<b>Predictive (Waterfall)</b>	<b>Adaptive (Agile)</b>
Task planning	Identified first, then divided into tasks	Deliverables first, then related tasks are identified
Timing	Performed in specific phases	Performed iteratively
Solution definition	Prior to implementation	In iterations
Activities	Needed for deliverables broken to tasks	Deliverables divided among iterations and tasks identified for iterations

### **Determine Business Analysis Activities**

Business analysis approach drives Business analysis activities. Decompose activities into tasks for each deliverable, their iterations.

### **Determine timing for Business Analysis work**

Business analysis approach, resource availability, priority/urgency of initiative, legal constraints affect timing of Business analysis activities.

### **Determine complexity and risk of Business Analysis Effort**

Factors affecting the complexity are

1. Size of the change,
2. Number of stakeholders,
3. Culture and geography,
4. Number of affected business areas/systems,
5. Technological competencies, and Risks etc.

Factors impacting risks of business analysis effort:

1. Business analysis experience level and domain knowledge,
2. Stakeholders experience in communicating requirements,
3. Stakeholders attitude of towards change and BA,

4. Time allocated to Business analysis activities,
5. Chosen Business analysis framework, methodology, tools and techniques,
6. Cultural norms and practices etc.

### **Outputs**

Business analysis approach identifies activities, specifies team roles, deliverables, analysis techniques, timing and sequencing of work, frequency of stakeholder interactions. A methodology is a formalized and repeatable approach.

## **3.2 Plan Stakeholder Engagement**

<b>Purpose:</b> To plan an approach for establishing and maintaining effective working relationships with stakeholders.		
<b>Inputs</b>	<b>Stakeholders</b>	<b>Outputs</b>
Needs  Business analysis approach	Customers, Domain SME, End user, PM, Regulator, Sponsor, Supplier	Stakeholder engagement approach
<b>Guidelines and Tools:</b> Business analysis performance assessment, Change strategy, Current state description.		
<b>Techniques:</b> Brainstorming, Business rules analysis, Document analysis, Interviews, Lessons learned, Mind mapping, Organizational modelling, Process modelling, Risk analysis and management, Scope modelling, Stakeholder list, Map, or Personas, Survey or Questionnaire, Workshops.		

Initiate stakeholder engagement as soon as business need is identified. Continue the same as long as Business analysis continues. Identify stakeholders affected by the business need or a new solution and analyzing their characteristics.

Categorize stakeholders based on business analysis collaboration and communication approach and their involvement or interest in the initiative. Document stakeholder or

stakeholder group roles, responsibilities and authorities over requirements.

## **Elements**

Identify stakeholder roles early to ensure timely delivery of requirements deliverables.

Individuals play variety of roles in the same project and different roles in different projects.

## **Perform stakeholder analysis**

Identify stakeholders and their characteristics. Determine impact of proposed change on them to determine their needs, wants and expectations to be satisfied by the solution. As requirements are based on stakeholder needs, stakeholders found late, or not at all, may require a revision to the requirements. This can change, or nullify completed tasks, or tasks in progress. This increases cost and decreases stakeholder satisfaction.

*Adaptive (Agile)* approaches better accommodate this risk, but can't eliminate it. Depending on the project, methodologies and organizations, stakeholder analysis can vary. Organizational charts, business processes, inputs from sponsor etc. are good sources to identify stakeholders. Consider vendors, regulatory bodies, shareholders, customers and suppliers as well.

## **Roles**

Determine stakeholder roles, when and how stakeholders contribute to the initiative.

## **Attitudes**

Understanding stakeholder attitudes to assess behavior of stakeholders, how they perceive the initiative and plan their collaboration and engagement.

## **Determine decision making authority**

Identify stakeholders who have authority over Business analysis activities and deliverables.

Stakeholders' authorities include:

- Inspect and approve requirements, deliverables
- Request and approve changes,
- Approve requirements management process,

- Review and approve traceability structure.

### **Determine level of power or influence**

Understand and analyze influence needed to make the initiative successful. Assess available key stakeholders' influences. For a large and complex project, sponsor must have effective relationships with funding groups. Develop risk plans and responses if there is a mismatch between influence required and influence available.

### **Define stakeholder collaboration approach**

Stakeholder collaboration approaches can vary based on timing and frequency of collaboration, location, tools available etc. Document this using stakeholder collaboration plan.

### **Document stakeholder communication needs**

Prepare stakeholder communication plan to describe what needs to be communicated, how it should be communicated, to whom it should be communicated. Consider stakeholder geographic locations, level of formality, level of detail, frequency of communication etc.

### **Outputs**

**Stakeholder engagement approach:** Contains detailed stakeholder list along with the collaboration and communication approach.

### 3.3 Plan Business Analysis Governance

<b>Purpose:</b> To define how decisions are made about requirements and designs, including reviews, change control, approvals and prioritization.		
Inputs	Stakeholders	Outputs
Business analysis approach  Stakeholder engagement approach	Domain SME, Project manager, Regulator, Sponsor	Governance approach
<b>Guidelines and Tools:</b> Business analysis performance assessment, Business policies, Current state description, Legal / Regulatory information.		
<b>Techniques:</b> Brainstorming, Document analysis, Interviews, Item tracking, Lessons learned, Organizational modelling, Process modelling, Reviews, Survey or Questionnaire, Workshops.		

For effective decision making, ensure that the governance process identifies decision makers, process and information necessary to make decisions, describes how proposals and prioritization decisions are made for requirements and designs.

#### Decision making

Well-defined decision-making process helps to identify escalation paths when stakeholders are unable to reach consensus. Provides information on key stakeholders who hold decision-making authority.

#### Change control process

Consider following while developing a change control process:

**Change request process:** Steps for proposing a change, when change can be proposed, who can propose change and how change requests are communicated.

### **Elements of change request:**

- Cost and time estimates, benefits, risks, priority, course(s) of action etc.,
- How to prioritize changes: Priority of the proposed change over other competing interests is established,
- How to document changes,
- How to communicate changes: How changes at various stages like proposed, reviewed, approved, declined or deferred are communicated to stakeholders,
- Determine who performs impact analysis, and
- Who authorizes changes.

### **Plan (Define) prioritization approach**

Determine formality and rigor of prioritization process, who will be involved, what techniques will be used and which criteria will be used for prioritization.

### **Plan for (Define) approvals**



### **Outputs**

**Governance approach:** Identifies the stakeholders who will take decisions, set priorities and approve changes to Business analysis information.

### 3.4 Plan Business analysis Information Management

<b>Purpose:</b> To develop an approach for how <i>business analysis information (requirements + other info)</i> will be stored and accessed.		
Inputs	Stakeholders	Outputs
Business analysis approach  Business analysis Governance approach  Stakeholder engagement approach	Domain SME, Regulator, Sponsor	Business analysis information management approach
<b>Guidelines and Tools:</b> Business analysis performance assessment, Business policies, Information management tools, Legal/Regulatory information.		
<b>Techniques:</b> Brainstorming, Interviews, Item tracking, Lessons learned, Mind mapping, Process modelling, Survey or Questionnaire, Workshops.		

Business analysis information should be organized in a useful manner, easily accessible and available for required time period. Consider the following:



## Elements

### **Organization of Business analysis information**

Business analysis information MUST be structured for easy access. Consider type and amount of information to be collected, stakeholder's access and usage needs, size and complexity of the change.

### **Levels of abstractions**

Determine the breadth and depth of the information to be provided based on each stakeholder's role. Create different levels of abstractions for different stakeholder groups.

### **Plan (Define) traceability approach**

- Whether and how to trace requirements (Based on the complexity of the domain),
- Number of views of requirements to be produced,
- Potential impacts from risk of not having traceability,
- Costs and benefits involved in tracing.

Tracing requirements adds considerable overhead to Business analysis work and must be done correctly and consistently to have value.

### **Plan for requirements reuse**

Organizations can save significant time, effort and cost by requirements reuse. Business analysts should plan requirements reuse instead of preparing requirements from scratch for common features or services used across multiple systems, processes, or programs.

*All requirements MUST be maintained. Requirements to be reused MUST be clearly named, defined and stored in a repository.*

### **Storage and Access**

Storage of Business analysis information depends on factors such as who must access the information, how often they need to access it, organizational standards and tools, conditions those must be fulfilled for access.

### **Requirements Attributes**

Requirement attributes help in managing requirements. Requirement attributes are not part of solution definition. Commonly used requirements attributes are:

- **Absolute reference:** Unique numeric (preferred) or textual identifier – Not to be altered or re-used even if the requirement is moved, changed or deleted.
- **Complexity** indicates implementation difficulty, often indicated by qualitative scales based on number of interfaces, complexity of essential processes, or the number and nature of resources required.
- **Ownership** individual or group that needs the requirement, or will be the business owner after the project is released into target environment.

- **Priority** which requirements need to be implemented first.
- **Risks** associated with meeting, or not meeting requirements.
- **Source of requirement** - Source that has the authority to define the particular set of requirements. Consult the source if the requirement changes, or if more information is needed regarding the requirement or the need that drove the requirement.
- **Stability** indicates how **mature** the requirement is. Used to determine whether the requirement is firm enough to start work on. Presence of large numbers of unstable core requirements indicates significant risk to project.
- **Status** indicates whether requirement is proposed, accepted, verified, postponed, cancelled, or implemented.
- **Urgency** indicates how soon the requirement is needed. It is necessary to specify this separately from priority when a deadline exists for implementation.
- Additional attributes may include information such as cost, resource assignment, revision number, traced-from and traced-to.
- A mnemonic for the above is **SCAR'S SOUP** (Stability, Complexity, Author, Risk, Status, Source, Urgency and Priority)

## Outputs

**Information management approach:** Defines how Business analysis information will be stored, accessed and utilized during and after the change is complete.

### 3.5 Identify Business analysis Performance Improvements

<b>Purpose:</b> To assess Business analysis work and to plan to improve processes where required.		
Inputs	Stakeholders	Outputs
Business analysis approach  Performance objectives (External)  <i>(Desired performance level that an enterprise is trying to achieve.)</i>	Domain Subject Matter Experts (SME), Project manager, Sponsor	Business analysis performance assessment
<b>Guideline and Tools:</b> Organizational performance standards.		
<b>Techniques:</b> Brainstorming, Interviews, Item tracking, Lessons learned, Metrics and key performance indicators (KPIs), Observation, Process analysis, Process modelling, Reviews, Risk analysis and management, Root cause analysis, Survey or Questionnaire, Workshops.		

Any performance to be enhanced should be monitored and improved by means of performance measures, performance analysis and acting on the results of the analysis.

#### Performance analysis

Business analysis performance can be verbal, informal, or formal.

#### Assessment measures

Measures may be both quantitative and qualitative. These may be based on Business analysis plan adherence, frequency of changes to requirements, number of review cycles required, or feedbacks from stakeholders.

Some possible measures for assessment are:



## Analyze results

Business analysis process and deliverables performance may be determined by stakeholders, personnel manager or center of excellence. Assess performance measures to determine problems or improvement opportunities in execution of Business analysis activities.

## Recommend actions for improvement

Engage necessary stakeholders to identify the following actions:

**Preventive:** Establish ways to reduce the probability of an event with a negative impact,

**Corrective:** Establish ways to reduce the negative impact of an event,

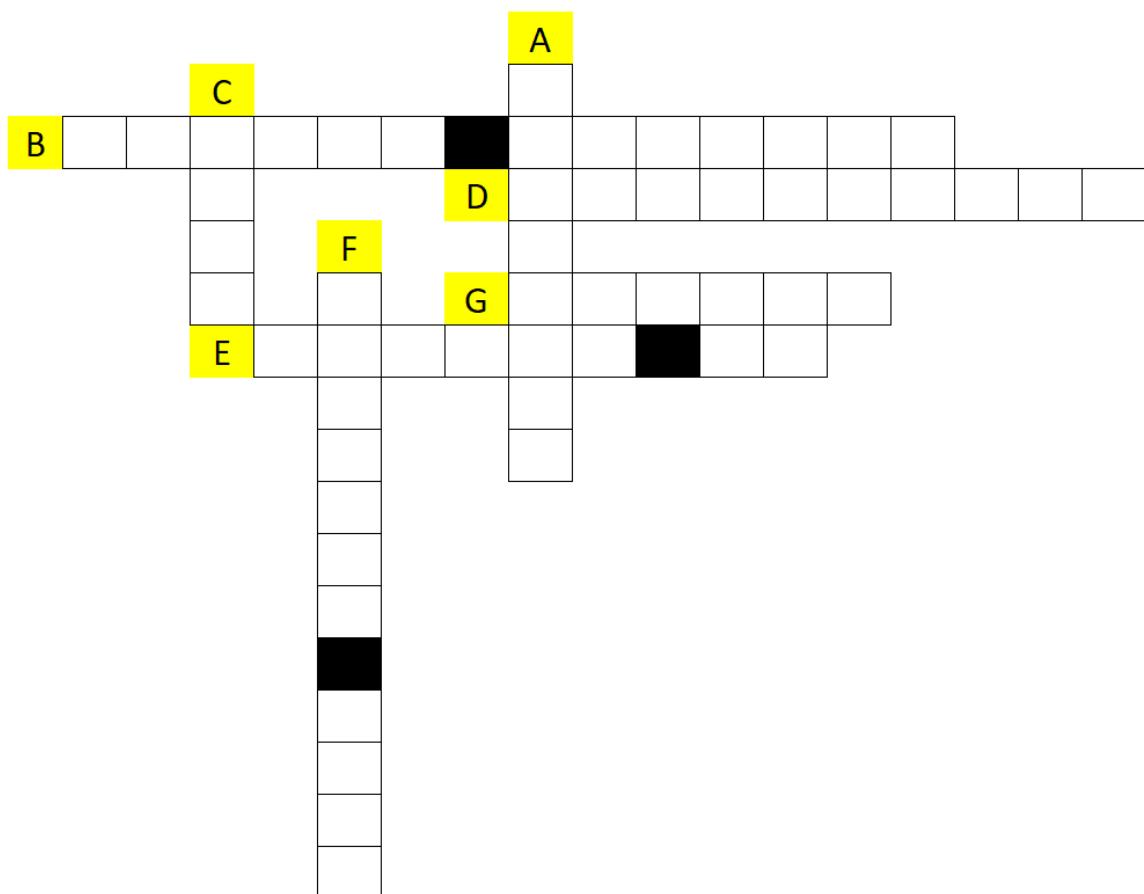
**Improvement:** Establish ways to increase the probability or impact of events with a positive impact.

## Outputs

**Business analysis performance assessment:** Comprises of a comparison of planned vs. actual performance, root cause analysis of deviation from the expected performance, ways to address issues.

## Additional chapter end material

### (A) Crossword



- A. I am the estimation technique which is used when the budget for a change is fixed. I am quite common in scrum-based projects for the sprints.
- B. Will you trust a single expert to estimate a complex task or project? Better not. If there is a lot of things at stake, I ask you to consult multiple experts to arrive at an estimate.
- C. A single point estimate is unreliable. I ask you to find 3 estimates. Who am I?

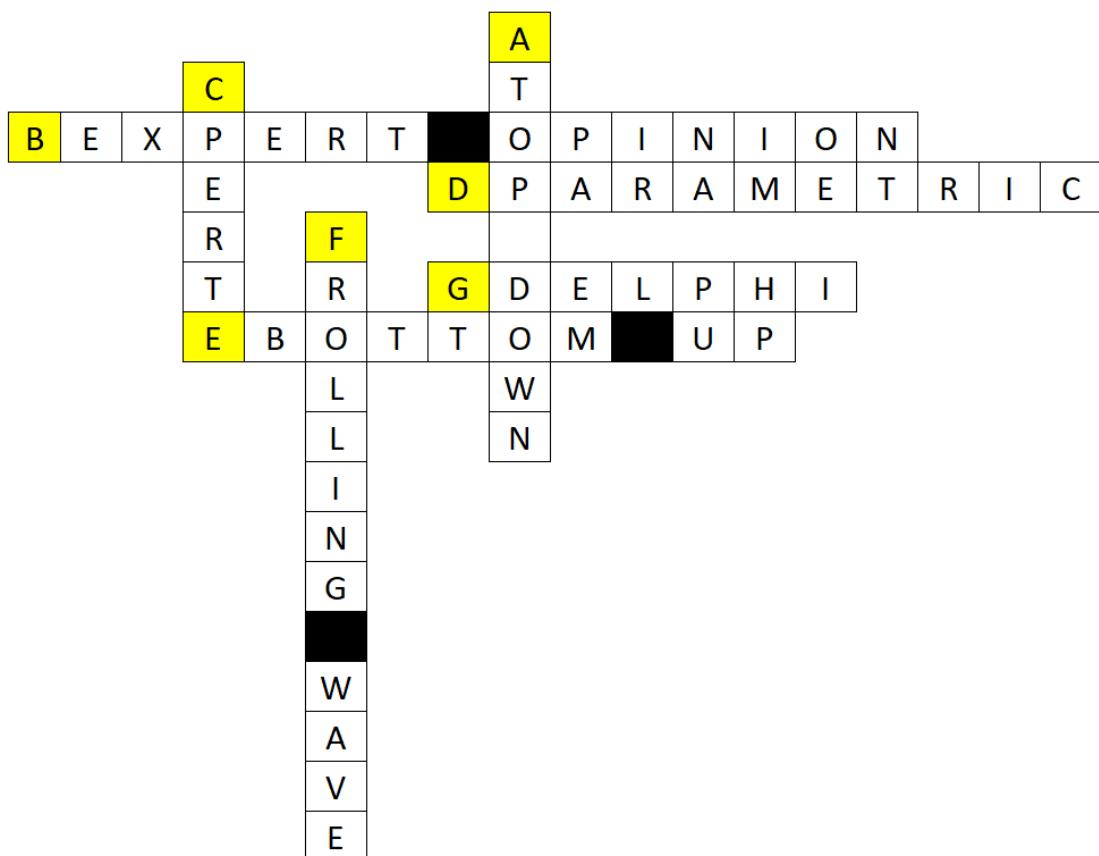
D. I am the estimation technique that is quite reliable. But your organization must have captured effort details about the past business analysis tasks.

E. I am the estimation technique which is used when the project scope gets defined at component level. I can be pretty accurate as long as you make sure that you haven't left any elements in our decomposed structure.

F. You should update me when actual project results are available. Who am I?

G. Will you trust a single expert to estimate a complex task or project? Better not. If there is a lot of things at stake, I ask you to consult multiple experts to arrive at an estimate.

**Answer**



## (B) Chapter Review Questions

1. B works as the business analyst for a project to introduce a new electronic gadget. Projects such as this have been lengthy, involved multiple stakeholders, and included thousands of requirements. When selecting a business analysis approach for the project, which of the following is B most likely to consider?
  - A. A predictive approach because of the highly regulated environment.
  - B. An adaptive approach because these approaches tend to be better for new products.
  - C. The BA approach depends on more factors than those which are given.
  - D. A combination of predictive and adaptive approaches, given the complexity of the project.
  
2. Business analyst B uses hierarchical decomposition to break down B's business analysis deliverables into activities and tasks. B then adds the hours needed and can give an accurate estimate of the time needed to complete the BA work. What type of estimation has Business analyst B used?
  - A. Delphi estimation.
  - B. Historic analysis.
  - C. Parametric estimation.
  - D. Bottom-up estimation.
  
3. Business analyst B has just finished a report that showed some problems in the business analysis work for the current project. Specifically, there were several variances from what B expected. What should B do to address the variances?
  - A. Update the business analysis approach for the project, to correct the problems identified.
  - B. Plan new or different business analysis activities, to correct the problems identified.
  - C. Update the business analysis communication plan, to ensure it includes reporting the variances.
  - D. Plan new or different requirements management processes to reduce the variances.

4. Even after best efforts by the solution team, certain issues are yet to be resolved. Which stakeholders should the BA need to involve when a product needs to be released with known issues?

- A. End user, Customer, and Operational Support.
- B. Tester, Regulator, and Sponsor.
- C. Tester, Implementation SME, and Customer.
- D. As defined in BA communication plan

5. P is a business analyst working on business process re-engineering for a major electricity utility organization. This organization has a history of violent union activities. What will be a preferred course of action for P?

- A. Develop a future state description by consulting only senior management.
- B. Identify stakeholders and define a method to engage with them.
- C. Develop requirements document for automating one of the key processes.
- D. Deliberate with sponsor as to available solutions to automate processes.

6. Business analyst C and B are working together on a project to develop a Learning Management System. B says that the project need not document requirements formally as the project operates in the adaptive approach and the developers can develop code with verbal instructions from the BAs. Business analyst C's response would be

- A. Agree with him as code development does not require documentation.
- B. Force upfront document as C has practiced the same in the old project.
- C. Escalate the matter to the sponsor to intervene.
- D. Explain to the BA that requirements documentation can have value beyond development.

7. Business analyst C working on a system avoids a particular business unit as the business unit has a past reputation of adding too many requirements. What is the danger that C can face?

- A. The project sponsor is with C, so there's nothing to worry.

- B. It can be assumed that the business unit has very little to do with the system.
- C. Not considering the stakeholders can result in last minute changes.
- D. The business unit will not bother as they were not consulted.
8. B is a business analyst for the upcoming order management system for B's organization. B is creating the stakeholder list. Which of the following information items are not relevant for every project and therefore need not be documented in every project?
- A. Field and depth of knowledge.
- B. Time and location availability.
- C. Political orientation of the stakeholder.
- D. Goals and interests in relation to the project.
9. Organization B is embarking on a new project to automate its procurement processes. The stakeholders had developed business rules for employees who are using the system. However, Organization B has users for the system who are not employees. The confusion between employees and users could have been avoided by using proper:
- A. Concept model
- B. Glossary
- C. Expert judgement
- D. Data model
10. Organization P is developing a new traffic control system. Here are the estimates provided by various approaches. The estimate that can be trusted the most will be?
- A. Top down estimate: 60 Person-months
- B. WBS estimate: 70 Person-months
- C. Wide-band Delphi – 30 Person Month, 45 Person-month and 80 Person-month
- D. Rough order of magnitude: 60 person-months

**Answers**

<b>Q #</b>	<b>Correct Option</b>	<b>Explanation</b>
1	C	<p>Please do not jump into a conclusion based on one or two aspects described in the question. A decision may be based on multiple factors.</p> <p>BABOK V3.0 - Section 3.1.4 - Elements - Paragraph 9 - Other considerations that may affect the approach include:</p> <ul style="list-style-type: none"> <li>• the change is complex and high risk,</li> <li>• the organization is in, or interacts with, heavily regulated industries,</li> <li>• contracts or agreements necessitate formality,</li> <li>• stakeholders are geographically distributed,</li> <li>• resources are outsourced,</li> <li>• staff turnover is high and/or team members may be inexperienced,</li> <li>• requirements must be formally signed off, and</li> <li>• business analysis information must be maintained long-term or handed over for use on future initiatives.</li> </ul>
2	D	<p>Work Breakdown Structure (WBS) approach helps in bottom-up estimation.</p> <p>BABOK V3.0 - Section 10.19.3 - Elements Paragraph 3 - Bottom-up: using the lowest-level elements of a hierarchical breakdown to examine the work in detail and estimate the individual cost or effort, and then summing across all elements to provide an overall estimate.</p>
3	B	<p>Since the BA process is not effective, we need to plan new or different BA activities.</p> <p>BABOK V3.0 - Section 3.5.8 - Outputs - Business Analysis Performance Assessment: includes a comparison of planned versus actual performance, identifying the root cause of variances from the expected performance, proposed approaches to address issues, and other findings to help understand the performance of business analysis processes.</p>

<b>Q #</b>	<b>Correct Option</b>	<b>Explanation</b>
4	D	<p>The BA communication plan drives all communication</p> <p>BABOK V3.0 - Section 3.2.4 - Communication considerations can be documented in the form of a stakeholder communication plan. Business analysts build and review communication plans with stakeholders to ensure their communication requirements and expectations are met.</p>
5	B	<p>Stakeholder identification is a task that is essential to success of the project before undertaking other activities.</p> <p>BABOK V3.0 - Section 3.2.4 - Roles - Business analysts identify stakeholder roles in order to understand where and how the stakeholders will contribute to the initiative. It is important that the business analyst is aware of the various roles a stakeholder is responsible for within the organization.</p>
6	D	<p>BABOK V3.0 – Section 3.4.4.4 - Plan for Requirements Reuse - Reusing requirements can save an organization time, effort, and cost - provided the requirements are accessible and structured in a manner that supports their reuse.</p>
7	C	<p>BABOK V3.0 - Section 3.2.4 - If stakeholders are not identified, the business analyst may miss uncovering critical needs. Stakeholder needs uncovered late will often require a revision to business analysis tasks that are either in progress or are completed. This can result in increased costs and decreased stakeholder satisfaction.</p>
8	C	<p>This is not needed.</p> <p>BABOK V3.0 - Section 10.43.2 - Common types of stakeholder characteristics that are worth identifying and analyzing include:</p> <ul style="list-style-type: none"> <li>• level of authority within the domain of change and within the organization,</li> </ul>

Q #	Correct Option	Explanation
		<ul style="list-style-type: none"> <li>• attitudes toward or interest in the change being undertaken,</li> <li>• attitudes toward the business analysis work and role, and</li> <li>• level of decision-making authority.</li> </ul>
9	B	<p>Business terms require clarity which can be achieved through glossary.</p> <p>BABOK V3.0 – Section 10.23.2 - Glossaries are used to provide a common understanding of terms that are used by stakeholders. A term may have different meanings for any two people. A list of terms and established definitions provides a common language that can be used to communicate and exchange ideas. A glossary is organized and continuously accessible to all stakeholders.</p>
10	B	<p>Among the estimates provided WBS is trusted the most because of the detailing of the requirements</p> <p>BABOK V3.0 – Glossary - work breakdown structure (WBS): A deliverable-oriented hierarchical decomposition of the work to be executed to accomplish objectives and create the required deliverables. It organizes and defines the total scope of the project.</p>

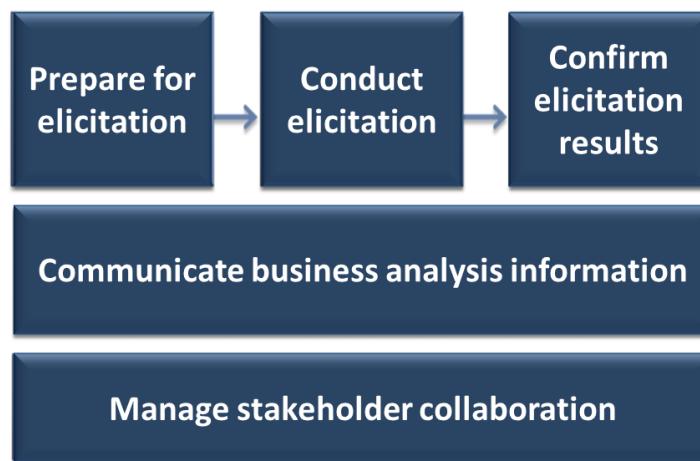
## 4. Elicitation and Collaboration



### Purpose of Elicitation and Collaboration Knowledge Area:

*Obtain, confirm and communicate requirements from stakeholders and other sources. Elicitation is the practice of collecting complete requirements from stakeholders or other sources. Collaboration is the act of working together with other people towards accomplishing a common goal.*

#### Tasks:



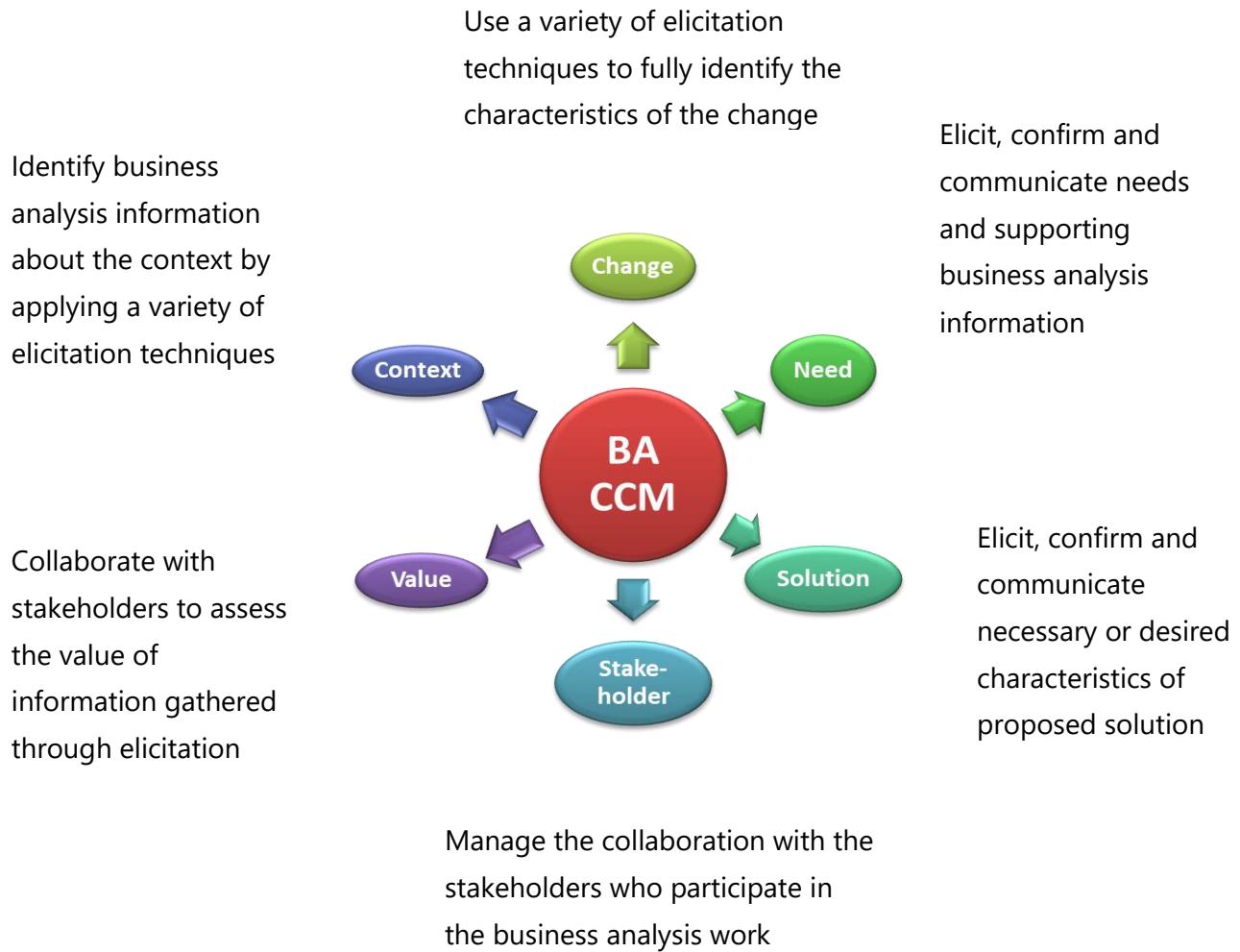
## Knowledge area Inputs, Tasks and Outputs

Inputs	Tasks	Outputs
Needs	Prepare for elicitation	Elicitation activity Plan
Business analysis information	Conduct elicitation	Elicitation results (Unconfirmed)
Stakeholder engagement approach	Confirm elicitation results	Elicitation results (Confirmed)
Business analysis performance assessment	Communicate Business analysis information Manage stakeholder collaboration	Business analysis information (Communicated) Stakeholder engagement

## Guidelines and Tools

Guidelines and Tools	Description
Business analysis approach	Provides guidance on how to undertake analysis of the current state.
Business objectives	Desired business benefits.
Elicitation activity plan	Plan to guide sources, schedule of elicitation.
Existing Business analysis information	Provide better understanding of the goals of elicitation activity and help in preparing for elicitation.
Information management approach	How Business analysis information will be packaged and communicated to stakeholders.
Potential value	Used as a benchmark to assess value delivered by requirements.
Recommended actions	Actions to improve value of a solution.
Supporting materials	Any materials, information, tools, or equipment to prepare for elicitation, or use during the elicitation.

### Core Concept Model in Elicitation and Collaboration



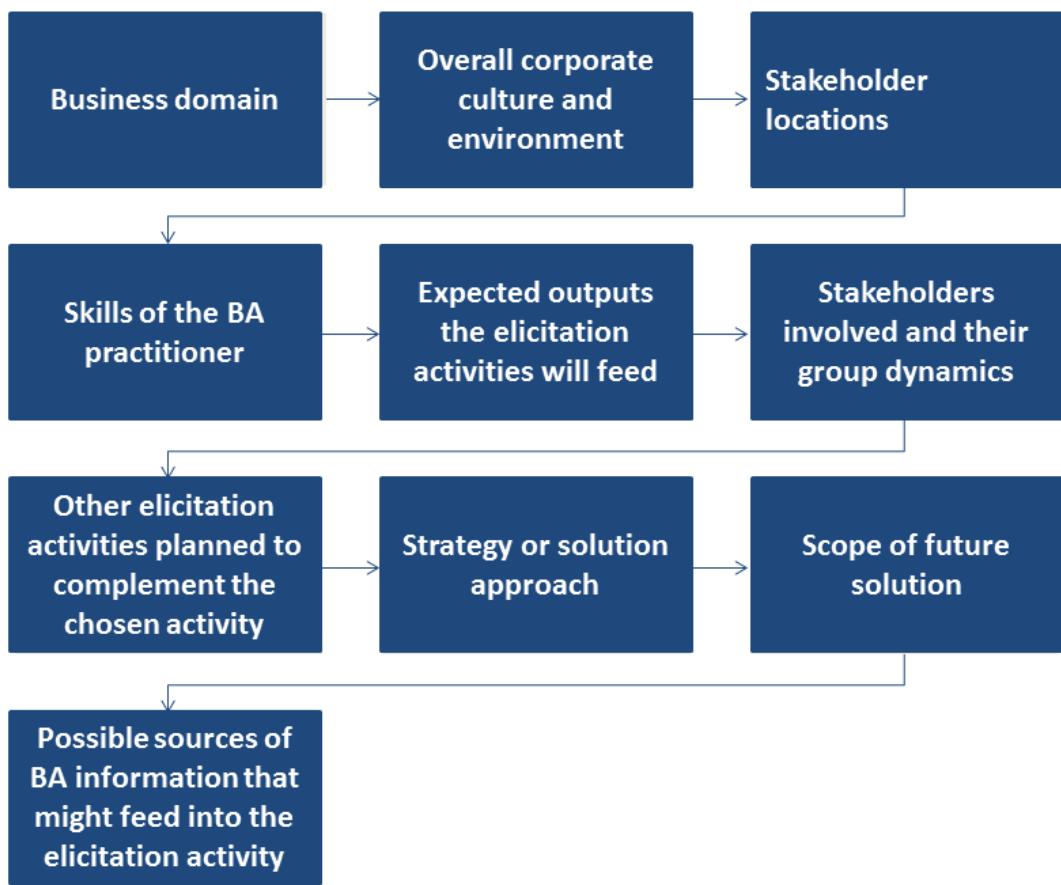
## 4.1 Prepare for Elicitation

<b>Purpose:</b> Understand scope of elicitation activity, select appropriate techniques and plan for (or procure) appropriate supporting materials and resources.		
Inputs	Stakeholders	Outputs
Needs  Stakeholder engagement approach	Domain SME, Project manager, Sponsor	Elicitation activity plan
<b>Guidelines and Tools:</b> Business analysis approach, Business objectives, Existing Business analysis information, Potential value.		
<b>Techniques:</b> Brainstorming, Data mining, Document analysis, Estimation, Interviews, Mind mapping, Risk analysis and management, Stakeholder list, Map, or Personas.		

### Elements

#### Understand scope of elicitation

Ensure that the elicitation activity does not deviate from the intended scope. Consider type of Business analysis information to be elicited and the techniques to be used based on:



## Select elicitation techniques

Use multiple techniques during elicitation based on time and cost, requirements sources, culture and desired outcomes.

### Select the elicitation techniques based on:

1. Techniques used in similar initiatives,
2. Techniques suitable for the situation and
3. Tasks required to carry out the technique.

## Set up logistics

Logistics for each elicitation activity include:

- Identifying activity's goals,

- Locations and scheduled resources,
- Participants and their roles,
- Communication channels,
- Techniques,
- Languages used by stakeholders.

### **Secure supporting material**

Identify sources of information (people, systems, historical, data, materials and documents) and obtain them for elicitation.

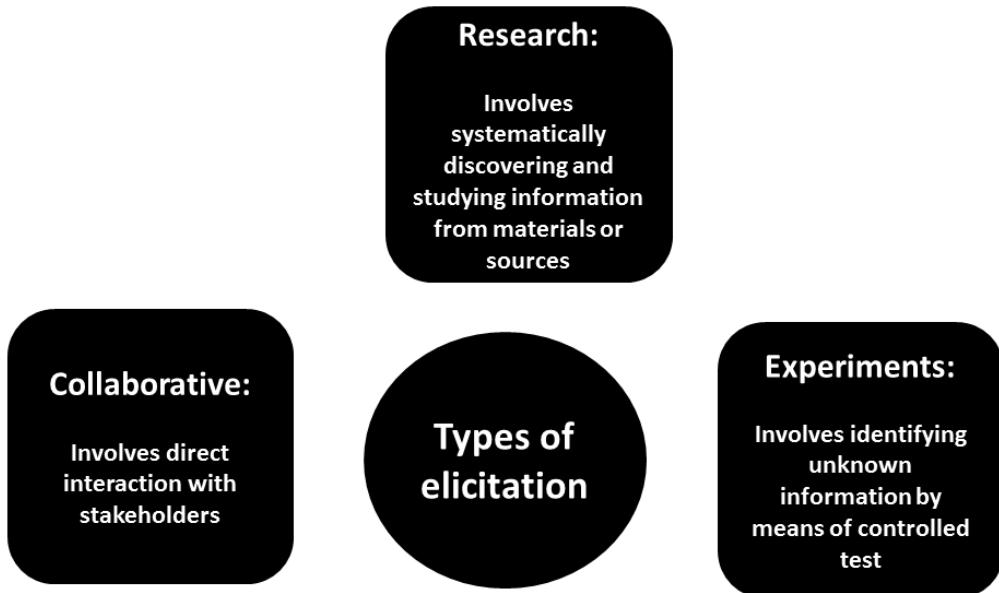
### **Prepare stakeholders**

Ensure stakeholders understand the purpose and relevance of conducting the elicitation. Prepare them for the same. Elicitation through research and exploration is usually done by the business analyst herself.

## **4.2 Conduct Elicitation**

<b>Purpose:</b> Purpose of conduct elicitation is to draw out, explore and identify information relevant to the change.		
Inputs	Stakeholders	Outputs
Elicitation activity plan	All	Elicitation results (Unconfirmed)
<b>Guidelines and Tools:</b> Business analysis approach, Existing Business analysis information, Stakeholder engagement approach, Supporting materials.		
<b>Techniques:</b> Benchmarking and market analysis, Brainstorming, Business rules analysis, Collaborative Games, Concept modelling, Data mining, Data modelling, Document analysis, Focus Groups, Interface analysis, Interviews, Mind mapping, Observation, Process analysis, Process modelling, Prototyping, Survey or Questionnaire, Workshops.		

### 3 common types of elicitation are:



### Elements

#### Guide elicitation activity

To achieve desired outcome, consider elicitation activity goals, scope of the change, types of output to be generated, who provides the information, who uses it, how it will be used etc.

#### Capture elicitation outcomes

Record information gathered during elicitation activities for later reference.

## 4.3 Confirm Elicitation Results

<b>Purpose:</b> To check the information gathered during an elicitation session for accuracy and consistency with other information.		
Inputs	Stakeholders	Outputs
Elicitation results (Unconfirmed).	All	Elicitation results (Confirmed)
<b>Guidelines and Tools:</b> Elicitation activity plan, Existing Business analysis information.		
<b>Techniques:</b> Document analysis, Interviews, Reviews, and Workshops.		

Discover missed out requirements, conflicts, error etc. during elicitation confirmation. This is done to identify any problems and resolve them before using the information.

### Elements

#### Compare elicitation results against source information

Follow up with stakeholders to correct and confirm elicitation results.

#### Compare elicitation results against other elicitation results

To ensure that the information is consistent and correctly represented, compare results collected through various elicitation activities. Models and specifications help to find inconsistencies in elicitation results.

## 4.4 Communicate Business analysis Information

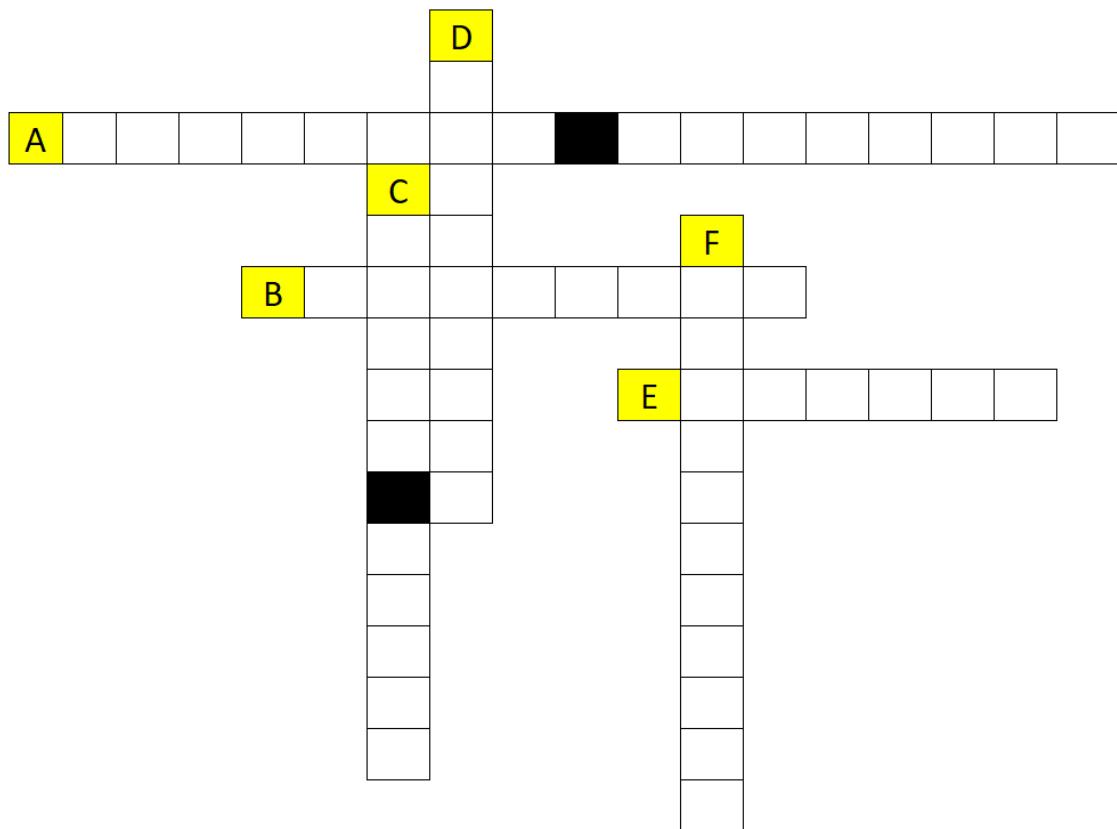
<b>Purpose:</b> To ensure stakeholders have a shared understanding of Business analysis information.		
Inputs	Stakeholders	Outputs
Business analysis information  Stakeholder engagement approach	All	Business analysis information (Communicated) (This is essentially Business and Stakeholder requirements.)
<b>Guidelines and Tools:</b> Business analysis approach, Information management approach.		
<b>Techniques:</b> Interviews, Reviews, Workshops.		

## 4.5 Manage Stakeholder Collaboration

<b>Purpose:</b> To encourage stakeholders to work towards a common goal.		
Inputs	Stakeholders	Outputs
Stakeholder engagement approach  Business analysis performance assessment	All	Stakeholder engagement
<b>Guidelines and Tools:</b> Business analysis approach, Business objectives, Future state description, Recommended actions, Risk analysis results.		
<b>Techniques:</b> Collaborative games, Lessons learned, Risk analysis and management, Stakeholder list, map, or personas.		

## Additional chapter end material

### (A) Crossword

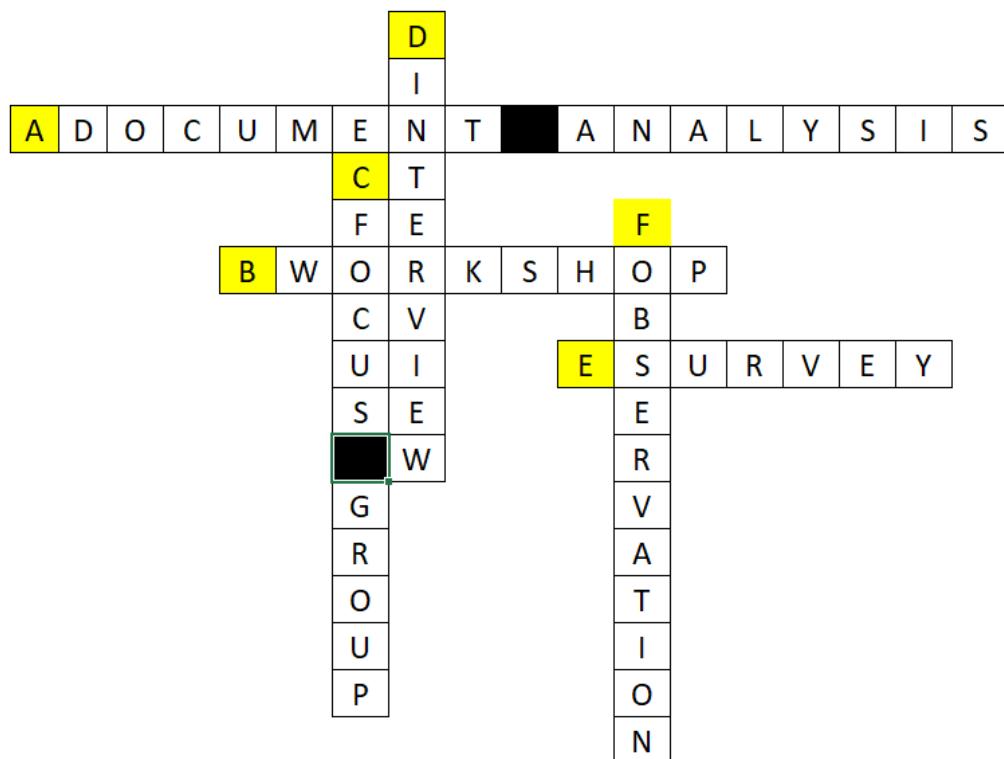


- A. I am the estimation technique which is used when Domain SMEs are not available. I am quite common in re-engineering projects.
- B. Stakeholders do have differences of opinions. I can help you to find consensus easily. Who am I?
- C. Plan to launch a new product? I ask you to focus on a key aspect.
- D. I am the most common elicitation technique. You can't possibly avoid me. Well, keep practicing me and you will be a star BA.

E. I am the technique which has become extremely popular with internet. Can be quite cost effective to reach large number of stakeholders.

F. You need to visit the workplace to be able to practice me. Be careful of safety aspects when you practice me. Who am I?

**Answer**



## (B) Chapter Review Questions

1. Business analyst B is a new business analyst for an application re-engineering project. B needs to choose the initial elicitation technique. B has a large number of stakeholders located across multiple locations. Business analyst B's preferred approach will be
  - A. Interviews.
  - B. Workshops.
  - C. Observation.
  - D. Survey.
  
2. B has scheduled a focus group to determine the current attitudes towards a new product that the company is developing. Stakeholder S suggests using the Kano model. Another stakeholder R argues that the group should use the benchmarking approach. What should business analyst B do?
  - A. Adopt the benchmarking approach as the stakeholder has high authority.
  - B. Explain that multiple techniques can be used for elicitation.
  - C. Make sure that all participants have a minimum of five years' experience with the company.
  - D. Since 'B' knows Kano model, choose the same.
  
3. Business analyst B conducted several interviews this week for a project. Several problems have come up. As many issues have come up, B's project manager suggested that B tracks the issues formally in an item tracker. Why?
  - A. Item trackers are used for historical purposes and project planning by the project manager.
  - B. To ensure the issues produced during elicitation are tracked down to resolution.
  - C. Used to ensure that the help desk and service management teams are kept in loop.
  - D. To ensure that the results of requirements workshops and interviews are documented.

4. Business analyst B is conducting a requirements workshop. B found that few stakeholders were quite silent during the workshop. What technique can B adopt to elicit requirements from all stakeholders?
- A. Mind-map.
  - B. State model.
  - C. Collaborative games.
  - D. Process model.
5. B is working as a business analyst in a large enterprise transformation project. In B's project, different stakeholders are at constant conflict. This is because
- A. Stakeholders like conflicts.
  - B. Business Analyst B is unable to engage stakeholders.
  - C. Stakeholders always dislike each other.
  - D. Stakeholders do not like conflicts resolved.
6. Business analyst C and B are working together in a project to develop a Learning Management System. Business analyst B has prepared the following requirements elicitation approach. What can Business analyst C's suggestion be to improve the requirements elicitation approach?

Type of requirements	Sources	Elicitation techniques	Modeling techniques
Process, data and UI requirements	ICV Specialists and Managers Contractors	Interview	Activity diagram, Prototype and Class model
Interfacing requirements	System owners for Contact management system (Omnicom) and SAP	Interview	Interface mapping template
Legal requirements	ICV Directives from Government of Oman	Document analysis	Business rules catalog
Business rules	Sponsor, ICV Manager	Document analysis, Interview and Workshop	Business rules catalog
Reporting requirements	Sponsor, ICV Manager	Interview	Reporting template

- A. Accept the approach as it captures functional and interface requirements.
- B. Advise the business analyst to include other kinds of requirements.
- C. Not to worry about any such approach as elicitation can be done verbally.
- D. Insist on Use Case approach as past projects followed the same.
7. Business Analyst B has to elicit requirements for a sales software that shall operate worldwide. In the initial elicitation of requirements, participants from all the 30 branches should be involved. The project management office has decided that for the documentation of the initial requirements a wiki system is to be used. Which one among the following statements is correct?
- A. The approach makes no sense as a wiki system is not a requirements management tool.
- B. The approach makes sense as all the people involved can collaboratively write down and comment on the initial requirements.
- C. The approach makes no sense as the initial requirements analysis has to be performed by a business analyst in the form of interviews.
- D. The approach makes sense as wiki systems provide a history (of the modifications made).

8. In a discussion with a number of stakeholders, Business Analyst B discovers a conflict between two stakeholders. On further analysis it turns out that the business rules are different for the stakeholders. Which one of the following conflict resolution techniques should B choose?

- A. Force the decision.
- B. Ignore the opinion of weaker stakeholders.
- C. Try to reach consensus through discussion.
- D. Conduct voting.

9. Which of the following statements about conflicts is true?

- A. Conflicts that affect the requirements must be resolved before formal approval is given.
- B. Signoff can occur provisionally if the parties agree that not resolving the conflict does not present a risk to the business analysis effort.
- C. Conflicts do not need to be resolved when using a change-driven approach and no formal approval is required.
- D. When conflicts occur that jeopardize the effort, the business domain subject matter expert will resolve the conflict.

10. Business analyst B is performing document analysis on the current project so that B does not necessarily have to start with a 'blank page.' Which among the following statements describes the limitation of document analysis?

- A. Document analysis can provide the challenges of the current system
- B. Document analysis can be a good starting point to understand the current systems
- C. Documentation can be outdated
- D. Existing documentation could also provide requirements for a new system

**Answers**

<b>Q #</b>	<b>Correct Option</b>	<b>Explanation</b>
1	D	<p>Surveys are a useful technique to gather requirements from large geographically dispersed stakeholders.</p> <p>BABOK V3.0 - Section 10.45.4 - Usage Considerations - .1 Strengths - Easier to collect information from a larger audience than other techniques such as interviews.</p>
2	B	<p>Techniques are not mutually exclusive. Point to remember.</p> <p>BABOK V3.0 - Section 1.4.5 - Techniques - Techniques provide additional information on ways that a task may be performed. The list of techniques included in the BABOK® Guide is not exhaustive. There are multiple techniques that may be applied alternatively or in conjunction with other techniques to accomplish a task. Business analysts are encouraged to modify existing techniques or engineer new ones to best suit their situation and the goals of the tasks they perform.</p>
3	B	<p>This is the main purpose of problem tracking.</p> <p>BABOK V3.0 - Section 10.26.1 - Purpose - Item tracking is used to capture and assign responsibility for issues and stakeholder concerns that pose an impact to the solution.</p>
4	C	<p>Collaborative games is a technique to ensure every one participates in the discussion.</p> <p>BABOK V3.0 - Section 10.10.1 - Purpose - Collaborative games encourage participants in an elicitation activity to collaborate in building a joint understanding of a problem or a solution.</p>

Q #	Correct Option	Explanation
5	B	<p>Lack of stakeholder engagement can result in conflicts.</p> <p>BABOK V3.0 - Section 4.5.1 - Purpose - The purpose of Manage Stakeholder Collaboration is to encourage stakeholders to work towards a common goal.</p>
6	B	<p>Requirements should cover functional, non-functional requirements and constraints.</p> <p>BABOK V3.0 - Section 2.3.5 – Requirements classification schema</p>
7	B	<p>Wikis are a group collaboration system.</p> <p>BABOK V3.0 - Section 4.4.4.2 - Communicate Business Analysis Package - Selecting the appropriate communication platform is also important. Common communication platforms include: Group collaboration: used to communicate the package to a group of relevant stakeholders at the same time. It allows immediate discussion about the information and related issues.</p>
8	C	<p>This is a good approach to resolve the issue.</p> <p>BABOK V3.0 - Section 9.5.4 - Negotiation and Conflict Resolution - .1 Purpose - Business analysts occasionally mediate negotiations between stakeholders in order to reach a common understanding or an agreement. During this process, business analysts help resolve conflicts and differences of opinion with the intent of maintaining and strengthening working relationships among stakeholders and team members.</p>

Q #	Correct Option	Explanation
9	A	<p>Unresolved conflicts can make the solution ineffective.</p> <p>BABOK V3.0 - Section 9.5.4 - Negotiation and Conflict Resolution - .1 Purpose - Business analysts occasionally mediate negotiations between stakeholders in order to reach a common understanding or an agreement. During this process, business analysts help resolve conflicts and differences of opinion with the intent of maintaining and strengthening working relationships among stakeholders and team members.</p>
10	C	<p>This is a demerit of document analysis. Rest all are positive aspects.</p> <p>BABOK V3.0 – Section 10.18.4.2 – Limitations - Existing documentation may be out of date or invalid (incorrect, missing information, unreadable, unreviewed or unapproved).</p>

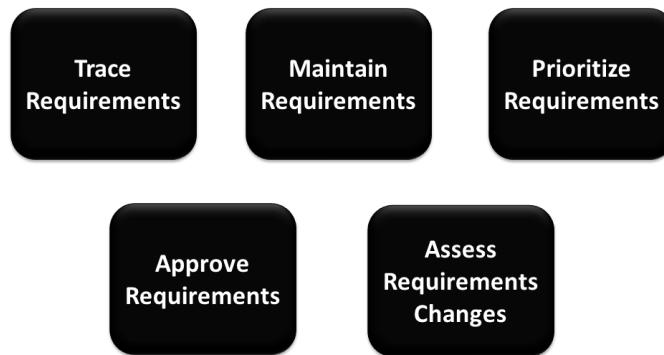
## 5. Requirements Life Cycle Management



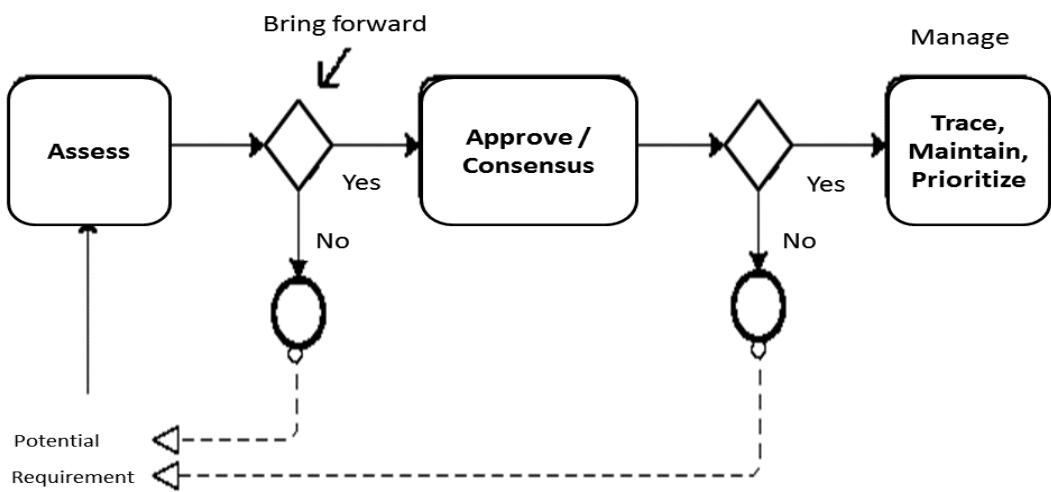
### Purpose of the Requirements Life Cycle Management Knowledge Area:

Requirements lifecycle is different from Business analysis lifecycle which focuses on execution of Business analysis work. Requirements lifecycle focuses on various stages of requirements development.

Activities carried out in this knowledge area are:



Requirements can be in multiple states at same time. This can be due to the fact that states can have a hierarchy. For example, requirements state can be active and approved.



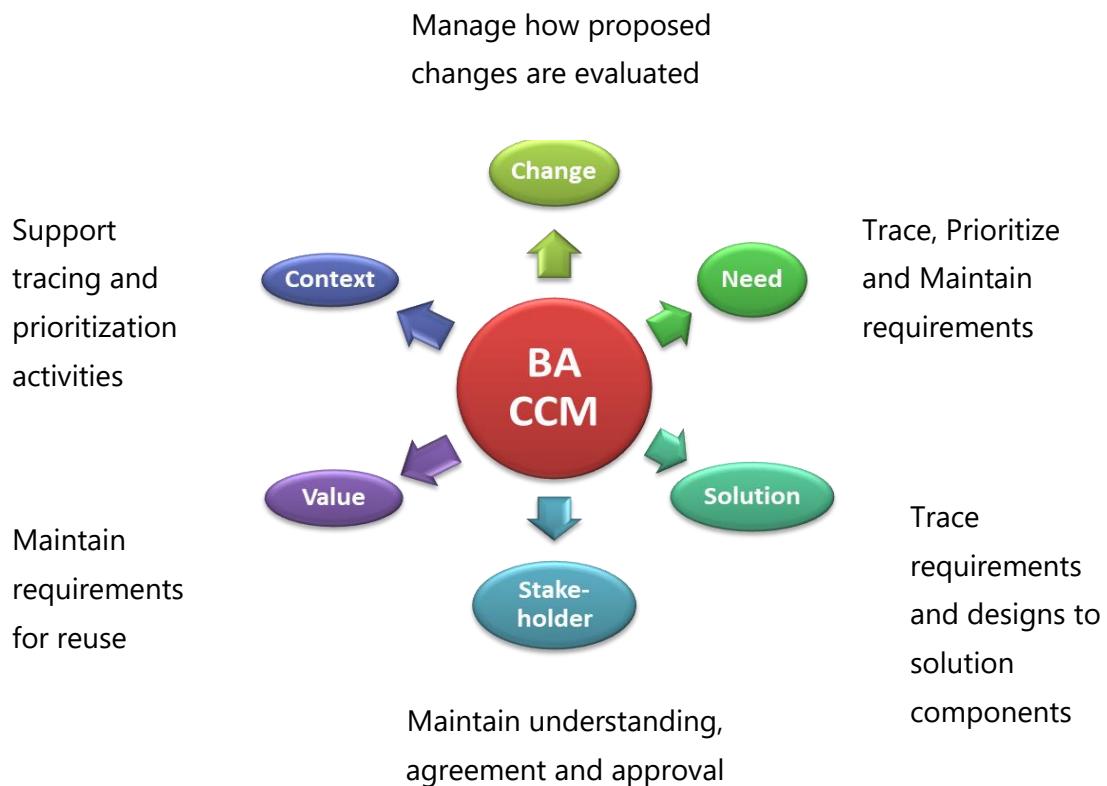
## Knowledge area Inputs, Tasks and Outputs

Inputs	Tasks	Outputs
Requirements	Trace requirements	Requirements (Traced)
Designs	Maintain requirements	Designs (Traced)
Proposed Change	Prioritize requirements	Requirements (Maintained)
Requirements (Verified)	Assess requirements changes Approve requirements	Designs (Maintained) Requirements (Prioritized) Designs (Prioritized) Requirements change assessment Designs change assessment Requirements (Approved) Designs (Approved)

## Guidelines and Tools

Guidelines and tools	Description
Business constraints	Regulatory statutes, contractual obligations and Business policies. Business constraints help in setting requirements priorities.
Domain knowledge	Knowledge of and expertise in the business domain.
Governance approach	Approach for prioritizing requirements.
Requirements architecture	Establishes relationship with other requirements and work products.
Requirements management tools / repository	Tools to store and manage Business analysis information.
Solution scope	Boundaries of the solution. This provides boundaries for requirements and designs models.

## Core Concept Model in Requirements Life Cycle Management



## 5.1 Trace Requirements

<b>Purpose:</b> To ensure requirements and designs at different levels are aligned to one another and to manage the effects of change to one level on related requirements and designs.		
Inputs	Stakeholders	Outputs
Requirements	All except <i>regulator</i>	Requirements (Traced)
Designs		Designs (Traced)
<b>Guidelines and Tools:</b> Domain knowledge, Information management approach, Legal / Regulatory information, Requirements management tools / repository.		
<b>Techniques:</b> Business rules analysis, Functional decomposition, Process modelling, Scope modelling.		

Traceability is the ability to look at a requirement and others to which it is related, linking business requirements to stakeholder and solution requirements, to artifacts and to solution components.

Traceability identifies and documents the lineage of each requirement, including its backward traceability (derivation), forward traceability (allocation) and its relationship to other requirements.

Traceability ensures that the solution conforms to the requirements. It also helps in managing scope, risk, time, requirements changes, cost and communication. It can be used to detect missing functionalities or to identify whether the implemented functionality is supported by a specific requirement.

### Reasons for creating traceability are:

1. Assist in impact analysis for requirements changes.
2. Ensure requirements coverage: Understand how business objectives are implemented. Business objectives not traced to detailed components have not been analyzed and hence not included in the solution.

### 3. Requirements allocation.

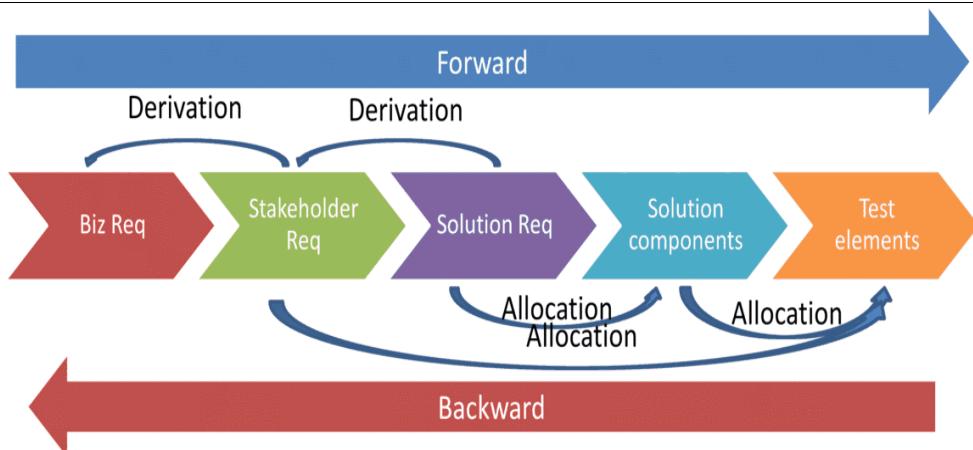
#### Elements

##### Level of formality

Consider value provided, nature and use while tracing requirements.

#### Relationships

<i>Derive</i>	<i>When one requirement is derived from the other (Solution requirements are derived from stakeholder requirements.)</i>
<i>Depends</i>	<i>One requirement can be implemented only if the other has been implemented or easier to implement if the other is implemented.</i>
<i>Satisfy</i>	<i>Relationship between an implementation element and the requirements it is satisfying.</i>
<i>Validate</i>	<i>A relation between a requirement and its test case to validate whether the solution fulfills the requirement.</i>



## Example of Traceability matrix

Requirements	Derived from	Dependent on requirement	Satisfied by (Solution component)	Validate (Test component)
Authenticate users	eCommerce	Nil	Login page	Test cases to test login functionality
Show products with prices	eCommerce	Payment gateway	Store front end	Test cases to test store functionality
Receive payments from customer	eCommerce	Nil	Payment gateway	Test cases to test payment gateway functionality

## 5.2 Maintain Requirements

<b>Purpose:</b> To retain requirement accuracy and consistency throughout and beyond the change during the entire requirements life cycle and to support reuse of requirements in other solutions.		
Inputs	Stakeholders	Outputs
Requirements Designs	Domain SME, Implementation SME, Operational Support, Regulator, Tester	Requirements (Maintained) Designs (Maintained)
<b>Guidelines and Tools:</b> Information management approach.		
<b>Techniques:</b> Business rules analysis, Data flow diagrams, Data modelling, Document analysis, Functional decomposition, Process modelling, Use cases and scenarios, User stories.		

## 5.3 Prioritize Requirements

<b>Purpose:</b> To rank requirements in the order of relative importance.		
Inputs	Stakeholders	Outputs
Requirements Designs	Customer, End User, Implementation SME, Project manager, Regulator, Sponsor	Requirements (Prioritized) Designs(Prioritized)
<b>Guidelines and Tools:</b> Business constraints, Change strategy, Domain knowledge, Governance approach, Requirements architecture, Requirements management tools / repository, Solution scope.		
<b>Techniques:</b> Backlog management, Business cases, Decision analysis, Estimation, Financial analysis, Interviews, Item tracking, Prioritization, Risk analysis and management, Workshops.		

### Elements

#### Basis for prioritization

Basis	Explanation
Benefit	Benefit attained on implementing requirements in terms of functionality, desired quality, business objectives etc. Requirements that provide highest benefit are prioritized first.
Penalty	Consequences resulting from not implementing a requirement. It may also be negative, that is, not satisfying customer needs
Cost	Effort and resources required to implement a requirement. Requirements priority may change based on the cost.
Risk	Chances that a requirement cannot deliver potential value or get fulfilled due to factors like difficulty in implementation, rejection from stakeholders etc.

Dependencies	When one requirement cannot be fulfilled unless the other requirement is fulfilled.
Time Sensitivity	The date after which the implementation of a requirement loses value considerably.
Stability	Requirements with less stability have low priority. It means the requirement can change upon further analysis and stakeholder consensus.
Regulatory or Policy Compliance	These requirements take precedence over stakeholder interests as regulatory and policy demands are mandatory. They cannot be overlooked.

### **Challenges of prioritization**

Requirements prioritization is a challenging task as stakeholders may have different priorities, may not agree to trade-off and put most requirements in high priority.

### **Continual prioritization**

Initial prioritization is usually done at a higher level based on benefit. Later it can be at granular based on technical constraints and cost.

## 5.4 Assess Requirements Changes

<b>Purpose:</b> To evaluate the implications of proposed changes to requirements and designs.		
Inputs	Stakeholders	Output
Proposed Change Requirements Designs	All except Implementation SME and Supplier	Requirements change assessment Designs change assessment
<b>Guidelines and Tools:</b> Change strategy, Domain knowledge, Governance approach, Legal / Regulatory information, Requirements architecture, Solution scope.		
<b>Techniques:</b> Business cases, Business rules analysis, Decision analysis, Document analysis, Estimation, Financial analysis, Interface analysis, Interviews, Item tracking, Risk analysis and management, Workshops.		

As new needs and solutions arise, business analysts determine value of the solution, whether it aligns with the overall strategy, affects business value, adds to risk, impacts delivery time etc.

### Elements

#### Assessment formality

Determine assessment formality and select an approach. *Predictive (Waterfall)* approaches typically need more formal assessment than adaptive approaches.

#### Impact analysis

*Perform impact analysis using traceability to identify and assess impact of requirement changes. Review impact on related components as well.* Factors to consider while assessing changes are benefit, cost, impact, schedule and urgency etc.

#### Impact resolution

Document impacts and resolutions resulting from change and communicate to all

stakeholders.

## 5.5 Approve Requirements

<b>Purpose:</b> To obtain agreement on and approval of requirements and designs for Business analysis work to continue and/or solution construction to proceed.		
Inputs	Stakeholders	Outputs
Requirements (Verified) Designs	All except Implementation SME and Supplier	Requirements (Approved) Designs (Approved)
<b>Guidelines and Tools:</b> Change strategy, Governance approach, Legal / Regulatory information, Requirements management tools / repository, and Solution scope.		
<b>Techniques:</b> Acceptance and evaluation criteria, Decision analysis, Item tracking, Reviews, Workshops.		

### Elements

#### Understand stakeholder roles

Know those stakeholders who hold decision making authority or who can influence decision-making.

#### Conflict and issue management

Facilitate communication among stakeholders to resolve requirements conflicts.

#### Gain consensus

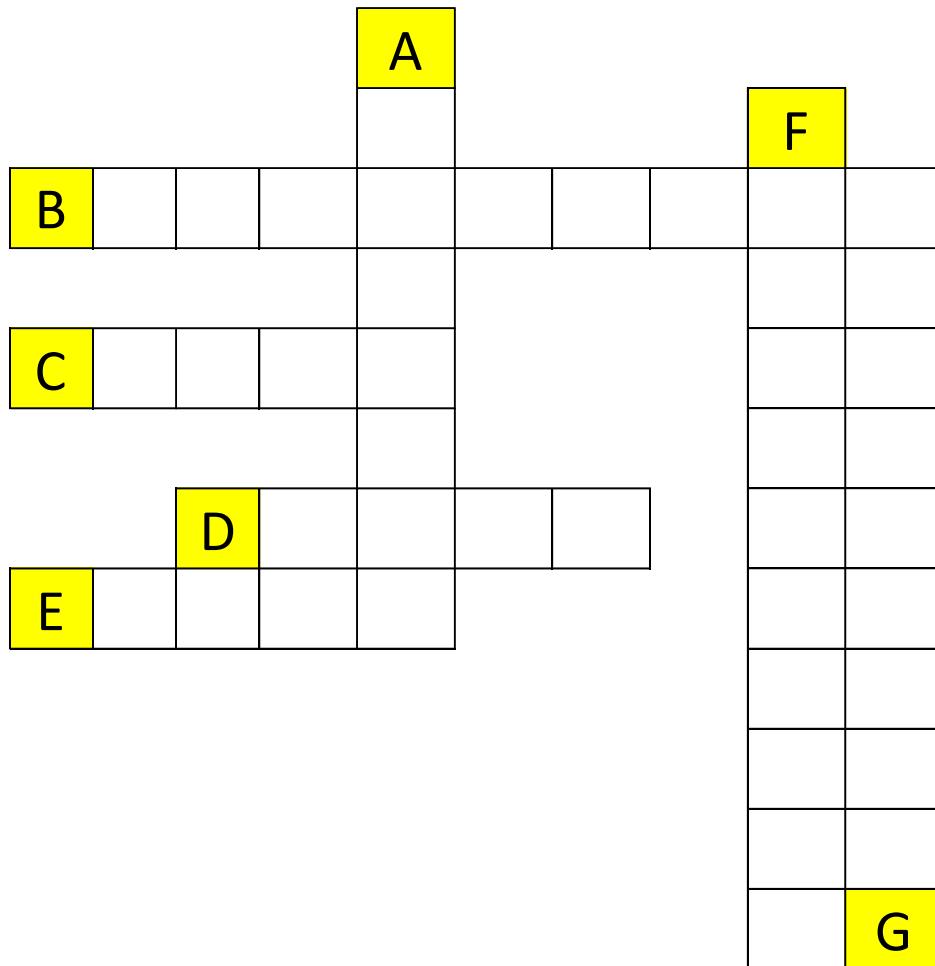
Complete agreement may not be necessary to implement a change, however any lack of agreement should be addressed to identify and manage associated risks.

#### Track and communicate approval

Requirements maintenance and tracking tools are useful in recording approval decisions. Maintain an audit history of changes to requirements so that stakeholders get an idea of the currently approved requirements and those in line for implementation.

## Additional chapter end material

### (A) Crossword



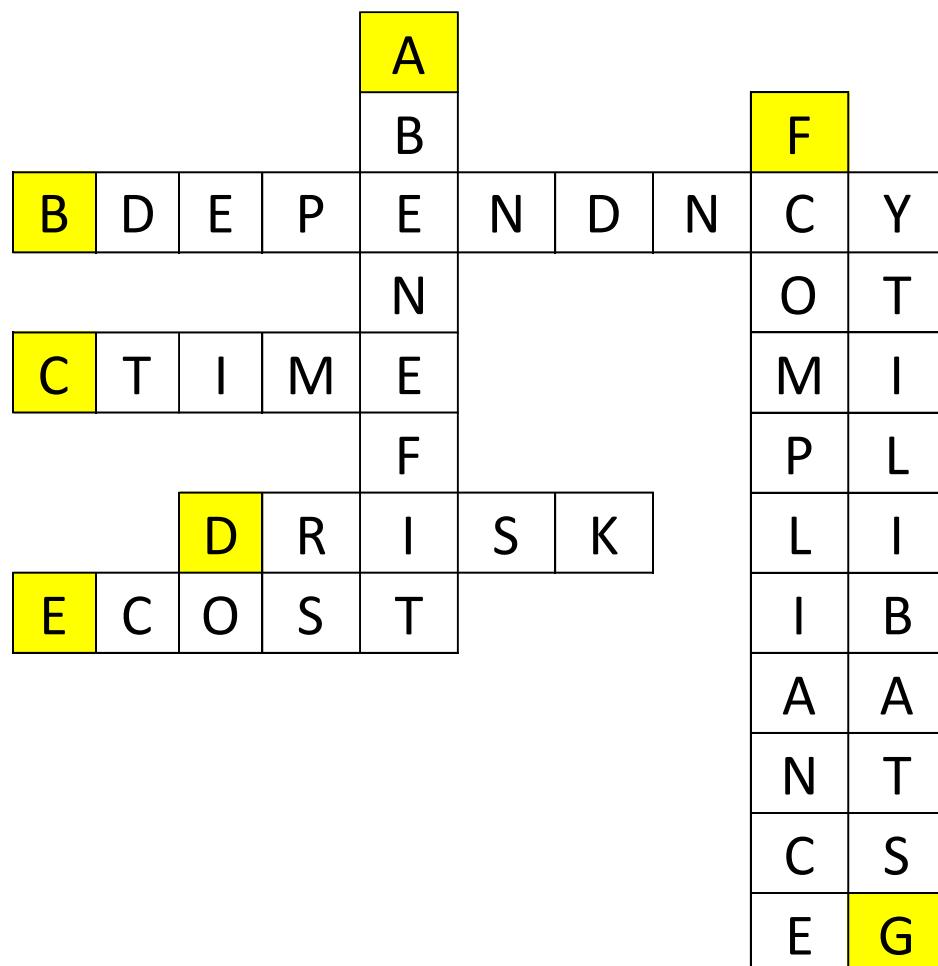
- A. I am the prioritization technique which is used when the focus for a change is the potential value. I am quite common in scrum-based projects for the sprints.
- B. Without implementing me there is no value for you. Who am I?
- C. Will you delay a project beyond a set deadline? Better not. I ask you to be punctual.
- D. I am also known as uncertainty, who am I?
- E. I am the prioritization technique which is used when there is a tight budget.

F. I come from statutory and regulatory bodies. Who am I?

G. I ask you not to work on requirements till they are clearly spelled out. Who am I?

G. Will you trust a single expert to estimate a complex task or project? Better not. If there is a lot of things at stake, I ask you to consult multiple experts to arrive at an estimate.

**Answer**



## (B) Chapter Review Questions

1. B is a business analyst for Project P. One particular stakeholder is adding unnecessary requirements and expectations into the go/no-go criteria. What should B's approach be before submitting the requirements package?
  - A. Call a meeting with the project sponsor and the SME in question and lay out the assessment of the situation.
  - B. Do not invite the stakeholder for the decision package review meeting as the stakeholder disrupts the decision-making process.
  - C. Facilitate a brainstorming session among executive team members to deal with the SME's expectations.
  - D. Seek a meeting with the SME to listen to the concerns carefully and be able to reflect them back to the stakeholder.
  
2. B is a business analyst for Project R. Stakeholder Z has good familiarity with traceability chains. Z insists that the project follows the approach. Business analyst B's response should be
  - A. Accept the stakeholder's suggestion as traceability matrix is very popular.
  - B. Explain that there are many ways to maintain traceability.
  - C. Traceability is not required as the project is of medium complexity.
  - D. Maintain traceability only at feature level.
  
3. While discussing with Implementation SMEs of Project X, Business analyst B finds that the implementation team is working on integrating a map feature. The same feature was already implemented in Project Q. The reason for repeat development could be because
  - A. Past requirements were not baselined.
  - B. Past requirements were not tested.
  - C. Past requirements were not maintained.
  - D. Past requirements were not packaged.

4. B is a business analyst for Project P. B obtained signoff on requirements from three stakeholders; the sponsor, the project manager, and the product manager. The project management office rejected B's requirements for implementation due to insufficient signoffs. What should have B checked for?
- A. Requirements signoffs matching the RACI matrix.
  - B. Project manager's preference for signoff.
  - C. Lack of quality assurance team's signoff.
  - D. Lack of implementation team's signoff.
5. B is a business analyst for Project Q. B's stakeholders have provided 50 requirements out of which 48 are classified as critical. The technique that Business analyst B can use to resolve this issue is
- A. Item tracker.
  - B. Prioritization.
  - C. Risk analysis.
  - D. Functional decomposition.
6. Business analyst C has completed documenting requirements for a Management Information Systems (MIS) project which would enable company B to track sales data, expenses and productivity levels. Which among the following options is a valid consideration for presenting the requirements to stakeholders?
- A. Executive sponsors and management want high-level requirements, so include executive summaries.
  - B. Many business SMEs will not be available to review requirements, so there is little need to write in the language they can understand.
  - C. There is virtually little difference in the time needed to prepare formal or informal requirements reviews. The difference lies in the organizational level of the audience being presented to.
  - D. Requirements fulfill stakeholder need, so must be communicated and accepted by them.

7. Business analyst B's Domain SMEs added two new requirements to the project after it had been signed off. These requirements did not match the overall scope of the project.

However, B was convinced that the chosen solution could handle the two new requirements, so B passed them on to the development team. What should have been the right approach for B?

- A. This approach was alright as the solution was capable of handling the new requirements
- B. Get approval from the sponsor to change the scope and effort of the project and add the new requirements if in fact they had true value and was needed by the business.
- C. Update the business requirements document and ask for signoff again. Once signoff is given the new requirements can be handed off to the development team
- D. Put the two new requirements into a future phase for delivery.

8. B is business analyst for Project Q. One of B's stakeholders provides a large number of requirements. Which among the following activities will enable B to determine if those requirements are part of scope?

- A. Agree with the requirements as stakeholders are primary source of requirements.
- B. Argue with the stakeholders that the development team can't possibly deliver all these requirements.
- C. Try to trace the requirements to the solution scope to include or exclude.
- D. Leave it to the development team to decide whether to include or exclude.

9. Business analyst C and B were discussing about requirements documentation for a very large project. Business analyst B would like to use a word processor to maintain the requirements. B is of the opinion that this would allow requirements to be available in a single location. What should C's reaction be?

- A. C would agree with the approach taken by B as requirements need to be single sourced.
- B. C has seen such practice in other organizations as well, hence there's nothing to worry about.
- C. Explain to C's colleague that without a requirements management tool, it is difficult to maintain large number of requirements.

D. Leave it to the development team to decide as to how the requirements should be structured.

10. Business analyst C and B are working together in a project to develop a Learning Management System. B maintains requirements in the emails as B is the only business analyst for the project.

- A. This is acceptable as requirements are in the custody of the business analyst.
- B. Agile approaches do not require requirements repository.
- C. Only a software-based requirements repository should be used.
- D. B should define a repository for the requirements and maintain the requirements.

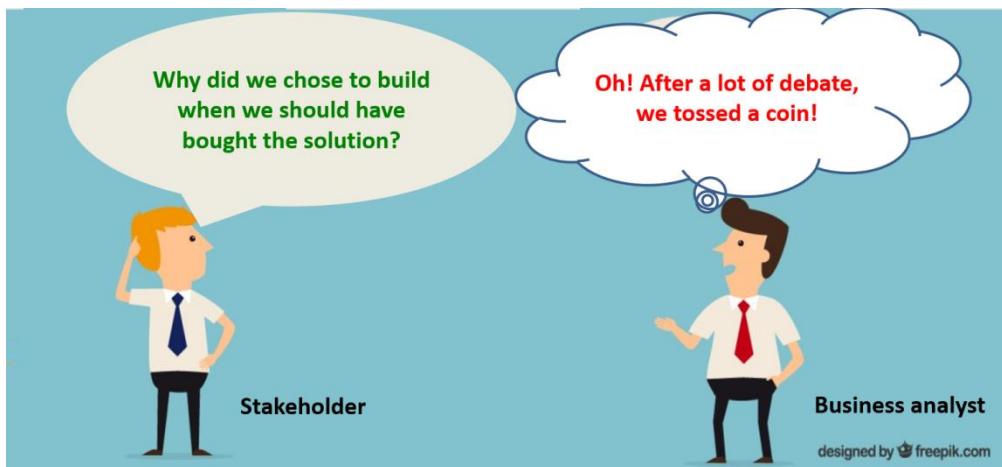
## Answers

Q #	Correct Option	Explanation
1	A	BABOK V3.0 - Section 9.5.1 - Facilitation - .1 Purpose Business analysts facilitate interactions between stakeholders in order to help them make a decision, solve a problem, exchange ideas and information, or reach an agreement regarding the priority and the nature of requirements. The business analyst may also facilitate interactions between stakeholders for the purposes of negotiation and conflict resolution (as discussed in Negotiation and Conflict Resolution (p. 210)).
2	B	<p>All activities in business analysis can be carried in multiple ways and there is no unique best way.</p> <p>Page vi - The BABOK® Guide should not be construed to mandate that the practices described in this publication should be followed under all circumstances. Any set of practices must be tailored to the specific conditions under which business analysis is being performed</p>

Q #	Correct Option	Explanation
3	C	<p>Not maintaining requirements results in the same requirements being implemented multiple times.</p> <p>BABOK V3.0 - Section 5.2.1 - Purpose - The purpose of Maintain Requirements is to retain requirement accuracy and consistency throughout and beyond the change during the entire requirements life cycle, and to support reuse of requirements in other solutions.</p>
4	A	<p>Remember: All sign-offs are conducted as per the defined RACI matrix.</p> <p>BABOK V3.0 –Section 5.5.2 - Description - Business analysts are responsible for ensuring clear communication of requirements, designs, and other business analysis information to the key stakeholders responsible for approving that information.</p> <p>BABOK V3.0 - Section 5.5.4 – Elements -.1 Understand Stakeholder Roles - The approval process is defined by the task Plan Business Analysis Governance.</p>
5	B	<p>BABOK V3.0 - Section 5.3.2 - Prioritization is the act of ranking requirements to determine their relative importance to stakeholders. When a requirement is prioritized, it is given greater or lesser priority. Priority can refer to the relative value of a requirement, or to the sequence in which it will be implemented. Prioritization is an ongoing process, with priorities changing as the context changes.</p>
6	D	<p>A theme in BABOK: Requirements are for stakeholders.</p> <p>BABOK V3.0 - Section 1.2 - What is Business Analysis? - Business analysis is the practice of enabling change in an enterprise by defining needs and recommending solutions that deliver value to stakeholders.</p>

<b>Q #</b>	<b>Correct Option</b>	<b>Explanation</b>
7	B	<p>Remember: Sponsor is accountable for solution scope.</p> <p>BABOK V3.0 - Section 5.3.7 - Sponsor: verifies that the prioritized requirements will deliver value from an organizational perspective.</p>
8	C	<p>Requirements should be within solution scope.</p> <p>BABOK V3.0 - Section 5.1.8 - Outputs - Requirements (traced): have clearly defined relationships to other requirements, solution components, or releases, phases, or iterations, within a solution scope, such that coverage and the effects of change are clearly identifiable.</p>
9	C	<p>Requirements management tool allows easy management of requirements.</p> <p>BABOK V3.0 - Section 5.1.4.3 - Requirements management tools can provide significant benefits when there is a need to trace a large number of requirements that may be deemed unmanageable with manual approaches.</p>
10	D	<p>All requirements must be maintained in an identified repository. Emails are not a tool for re-use.</p> <p>BABOK V3.0 - Section 5.2.1 - Purpose - The purpose of Maintain Requirements is to retain requirement accuracy and consistency throughout and beyond the change during the entire requirements life cycle, and to support reuse of requirements in other solutions.</p>

## 6. Strategy Analysis



### Purpose of Strategy Analysis Knowledge Area

Define the most effective way to achieve organizational goals and objectives.

**Strategy analysis knowledge area consists of the following tasks:**



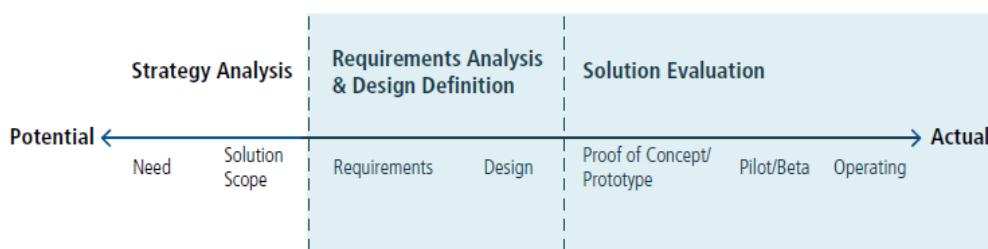
Strategy is about utilizing capabilities of an enterprise in the most effective way. It helps to achieve organizational goals and objectives. This knowledge area focuses on following activities.

## Identify a business need

1. Enable the enterprise to address that need and
2. Collaborate with stakeholders to align the resulting strategy with other strategies.

Strategy analysis is an ongoing activity. It continues as changes occur and more information becomes available. It also helps in determining whether to address a business need or not.

Figure 6.0.1: Business Analysis Value Spectrum



Strategy planning varies based on the predictability of the outcome. When the change outcome is predictable, future and transition states can be defined clearly and a clear strategy can be planned.

For unpredictable outcomes, more emphasis is given to mitigating risks, testing assumptions, identifying feasible strategies etc.

*Few artefacts to capture strategy are Strategic plan, Product vision, Business case, and Product roadmap etc.*

## Knowledge Area Inputs, Tasks and Outputs

Inputs	Tasks	Outputs
Needs	Analyze current state	Current state description
Influences (Internal and	Define future state	Business requirements

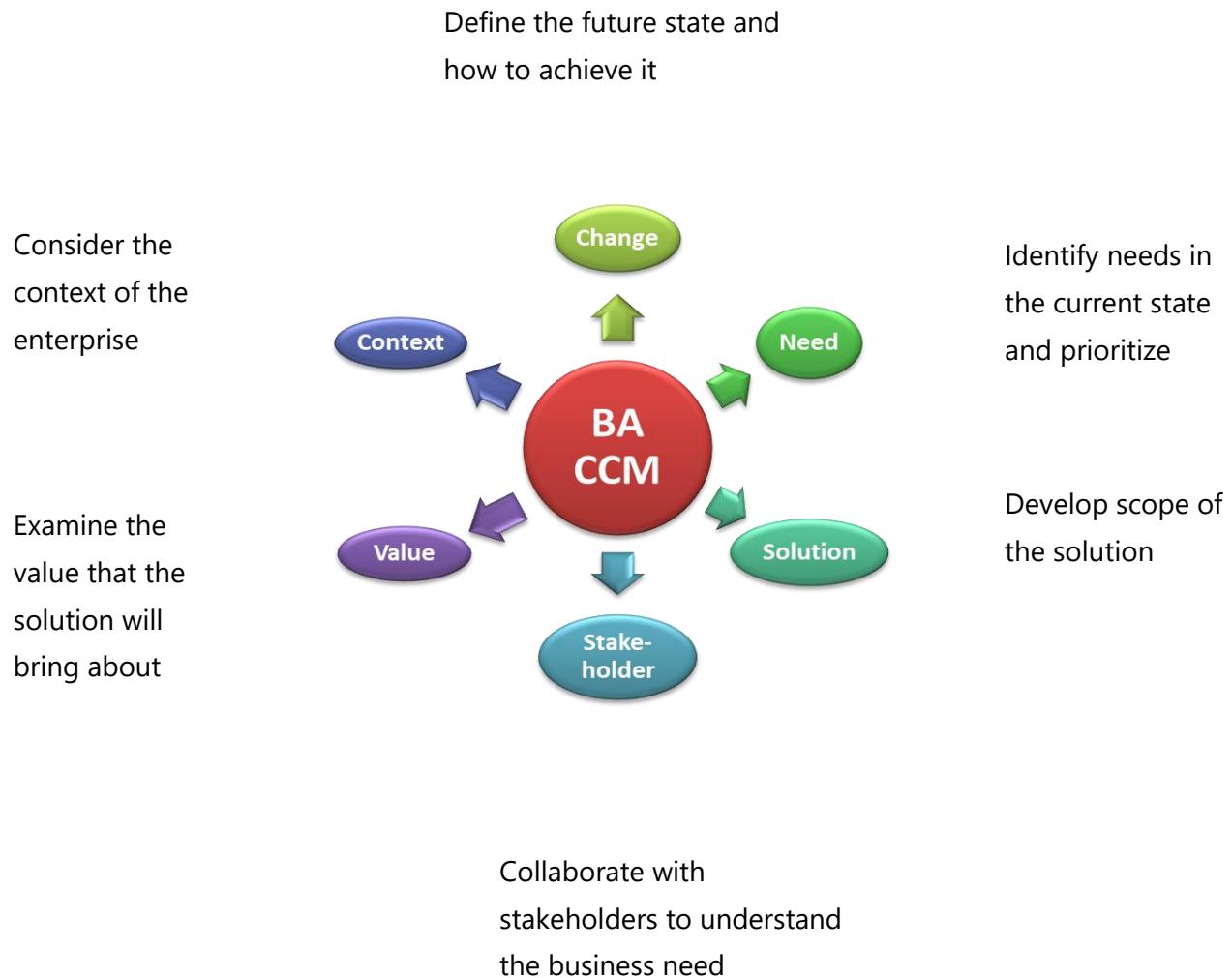
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external)	Assess risks	Business objectives
Stakeholder engagement approach	Define change strategy	Future state description
Elicitation results (Unconfirmed)		Potential value
Elicitation results (Confirmed)		Risk analysis result
Designs (Prioritized)		Change strategy
Requirements (Prioritized)		Solution scope

## Guidelines and Tools

Guidelines and Tools	Description
Design options	Describe different ways to satisfy business needs. Options come with their own set of change challenges and risks.
Enterprise limitations	Used to understand challenges that exist within the enterprise.
Future state description	Desired future state and expected value delivery.
Identified risks	Risks identified during risk analysis or any other process.
Metrics and key performance indicators (KPIs)	Helps in determining whether the desired future state has been achieved.
Organizational strategy	Set of goals and objectives which guides operations, establishes direction and provides a vision for the future state. Can be explicit or implicit.
Solution limitations	Challenges associated with current solutions.
Solution performance goals	Goals for solution performance.
Solution performance measures	Current performance of existing solutions.
Solution recommendations	Possible solutions which can be pursued in order to achieve the future state
Stakeholder analysis results	Understand stakeholders who need to contribute for understanding and analysis of the current state.

## Core Concept Model in Strategy Analysis



## 6.1 Analyze Current State

<b>Purpose</b> To understand the reasons why an enterprise needs to change some aspect of how it operates and what would be directly or indirectly affected by the change.		
Inputs	Stakeholders	Outputs
Needs	All	Current state description
Elicitation results		Business requirements
<b>Guidelines and Tools:</b> Business analysis approach, Enterprise limitation, Organizational strategy, Solution limitation, Solution performance goals, Solution performance measures, Stakeholder analysis results.		
<b>Techniques:</b> Benchmarking and market analysis, Business capability analysis, Business model canvas, Business cases, Concept modelling, Data mining, Document analysis, Financial analysis, Focus groups, Functional decomposition, Interviews, Item tracking, Lessons learned, Metrics and key performance indicators (KPIs), Mind mapping, Observation, Organizational modelling, Process analysis, Process modelling, Risk analysis and management, Root cause analysis, Scope modelling, Survey or Questionnaire, SWOT analysis, Vendor assessment, Workshops.		

### Elements

#### Business needs

Understand WHY changes are needed. Business needs are strategically important problems and opportunities faced by an enterprise. New business needs can be generated:

- From top down – to achieve a strategic goal.
- From bottom up – Problems in existing processes, functions or systems.
- From external drivers – Customer demands or business competition in marketplace.
- From middle management – Based on additional information required by managers to take decisions or meet business objectives.

Business needs are typically described with possible outcomes. Some of the factors business analysts would consider while formulating solutions are:

1. Identify and quantify the impact of a problem on the organization.
2. Benefits obtained from a solution.
3. Source of the problem.
4. How effectively the problem can be resolved.

Defining the business need is possibly the most critical step in any business analysis effort.

### **Organizational structure and culture**

Organizational structure describes the formal relationships between people working in the enterprise. Culture deals with the beliefs, values and norms shared by the members of an organization. Understanding these aspects are critical to ensure change will be successful.

### **Capabilities and processes**

Capabilities and processes describe the activities organization performs. Core capabilities are the activities or essential functions in an enterprise that differentiates it from others.

Views those are used often are:

Capability centric view: Come up with innovative solutions by combining existing capabilities.

Process centric view: Used to look for ways to enhance the performance of present activities.

### **Technology and infrastructure**

Information systems that support the people of an organization to:

Make decisions, execute processes and interact with customers.

Infrastructure deals with physical components, their operation and maintenance.

### **Policies**

Policies help to take decisions at various levels of an enterprise. Policies ensure decisions are made correctly, guidance is given to staff, resource acquisition is done correctly etc.

### **Business architecture**

Business architecture describes key elements of current state. Understand the existing business

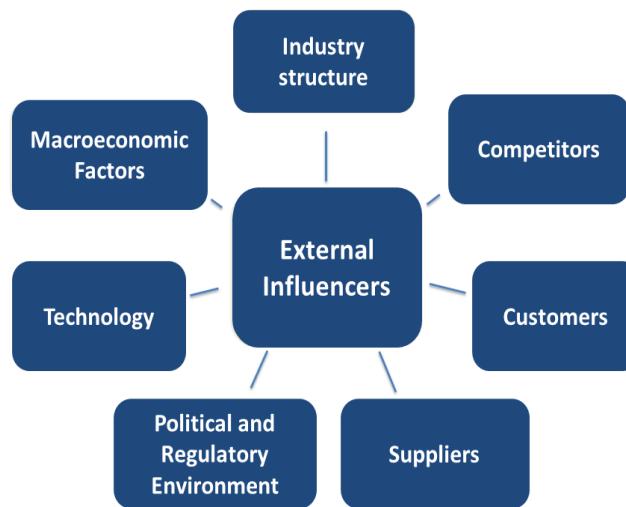
architecture and analyze whether stakeholder needs will continue to be met by the prosed transition or future business architectures.

### **Internal assets**

Assets used in the current state in the enterprise.

### **External influencers**

External influencers might present constraints, dependencies, or drivers on the current state.



## 6.2 Define Future State

<b>Purpose</b> To determine the set of necessary conditions to meet the business need.		
Inputs	Stakeholders	Outputs
Business requirements	All	Business objectives Future state description (Scope) Potential value
<b>Guidelines and Tools:</b> Current state description, Metrics and key performance indicators (KPIs), Organizational strategy.		
<b>Techniques:</b> Acceptance and evaluation criteria, Balanced scorecard, Benchmarking and market analysis, Brainstorming, Business capability analysis, Business cases, Business model canvas, Decision analysis, Decision modelling, Financial analysis, Functional decomposition, Interviews, Lessons learned, Metrics and key performance indicators (KPIs), Mind mapping, Organizational modelling, Process modelling, Prototyping, Scope modelling, Survey or Questionnaire, SWOT analysis, Vendor assessment, Workshops.		

Ensure that:

- Future state of the enterprise is defined properly.
- Stakeholders have no conflicting opinions and
- Work can be carried out with the resources available.

Future state description provides details of the solution scope, outcomes that will satisfy the business needs, value it will add etc. It can include modifications/changes to the components of an enterprise and/or boundaries of the organization.

## **Business goals and objectives**

Goals	Long-term, on-going and qualitative statements of a condition that the organization seeks to establish and maintain. For example: We want to be the most preferred technology partner to our clients.
Strategy	Goals lead to strategy to achieve them. For example, goal can be: "Increase high-revenue customers". Strategy can be "Increase high-revenue customers through mergers and acquisitions".
Objectives	Descriptive, granular, specific and linked to measures to objectively assess if the objective has been achieved.

**SMART** characteristics of objectives:

- **S**pecific – Something with an observable outcome.
- **M**easurable – Can be quantitatively measured.
- **A**chievable – Feasible.
- **R**elevant – Aligned **with** organization's vision, mission and goals.
- **T**ime-bound – Has a defined timeframe consistent with the business need.

## **Scope of solution space**

Decide on range of solutions that may be considered.

## **Constraints**

Constraints are aspects that cannot be changed by the solution or design. It can be restrictions on budget, time, resources, technology, infrastructure, policies etc.

## **Organizational structure and culture**

Identify what needs to be changed in the formal and informal working relationships to meet the desired future state

## **Capabilities and processes**

Identify new activities or changes in the way they will be performed. This is required to

realize the future state like changed capabilities and processes, new regulations, enhanced enterprise performance etc.

### **Technology and infrastructure**

Identify changes necessary in current technology and infrastructure to meet the business need.

### **Policies**

Identify changes required in current policies that are necessary to meet the desired future state.

### **Business architecture**

Elements of any future state MUST support one another and contribute to meeting the business goals and objectives.

### **Internal assets**

Examine resources needed to maintain the current state or achieve a desired future state.

### **Identify assumptions**

Identify and understand assumptions to take appropriate decisions.

### **Potential value**

Evaluate the potential value of the future state apart from assessing whether business objectives are met. Potential value is the net benefit of the solution after considering operating costs.

## 6.3 Assess Risks

<p><b>Purpose:</b> To understand undesirable consequences of internal and external forces on the enterprise during a transition to, or once in, the future state. An understanding of the potential impact of those forces can be used to make a recommendation about a course of action.</p>		
Inputs	Stakeholders	Outputs
<p>Business objective Elicitation results (Confirmed) Influences Potential value Requirements (Prioritized)</p>		
<p><b>Guidelines and Tools:</b> Business analysis approach, Business policies, Change strategy, Current state description, Future state description, Identified risks, Stakeholder engagement approach.</p>		
<p><b>Techniques:</b> Brainstorming, Business cases, Decision analysis, Document analysis, Financial analysis, Interviews, Lessons learned, Mind mapping, Risk analysis and management, Root cause analysis, Survey or Questionnaire, Workshops.</p>		

Assessing risks includes analyzing and managing them. Risks are analyzed to:

1. Determine the possible consequences if it occurs
2. Its impact and likelihood, and also
3. The time frame in which it can occur.

Initial risk assessment focuses mainly on solution feasibility risks. It should consider technical risks, financial risks, business change and organizational risks.

Positive risk can be considered as a way of managing opportunities. However, BABOK® considers 'opportunities' as needs and 'risks' as uncertain events which can have negative

consequences.

## **Elements**

### **Unknowns**

It is impossible to fully predict the outcome of a particular change strategy. However, it is possible to estimate the impact of unknown or uncertain events or conditions occurring. Lessons learnt and historical contexts can prove useful in this scenario.

### **Constraints, assumptions and dependencies**

Analyze and manage risks after identifying events, conditions or consequences that could occur because of risks.

### **Negative impact to value**

Risks can increase the likelihood or severity of a negative impact to value. Overall risk level can be computed in financial terms, amount of time, effort etc.

### **Risk tolerance**

Risk tolerance levels vary for individuals or organizations. For instance, most people will accept greater risks to avoid a perceived loss than the corresponding payoff from a success, even when the financial outcomes are identical. Size and potential impact of the risk may also affect the risk tolerance.

3 general categories of risk tolerance are:

<b>Categories</b>	<b>Explanation</b>
Risk-aversion	Seeks to reduce risks, particularly negative risks and prefers to approach as close to certainty as possible. A reduction in potential benefits in return for a more certain outcome is seen as an acceptable trade-off.
Neutrality	A neutral approach to risk means that the probable benefits gained from the risk response must equal or outweigh the costs in order to

	justify action.
Risk-seeking	Willingness to accept relatively high risks in order to maximize the potential benefit. Risk-seekers may accept low chances of success if the benefits of success are higher.

### Recommendation

Recommend a course of action on how to pursue the change by working with stakeholders to understand their risk and tolerance levels.

## 6.4 Define Change Strategy

<b>Purpose:</b> To develop and assess alternative approaches for the change and then select the recommended approach.		
Inputs	Stakeholders	Outputs
Current state description	All	Change strategy
Future state description		Solution scope
Risk analysis results		
Stakeholder engagement approach		
<b>Guidelines and Tools:</b> Business analysis approach, Design options, Solution recommendations.		
<b>Techniques:</b> Balanced scorecard, Benchmarking and market analysis, Brainstorming, Business capability analysis, Business cases, Business model canvas, Decision analysis, Estimation, Financial analysis, Focus groups, Functional decomposition, Interviews, Lessons learned, Mind mapping, Organizational modelling, Process modelling, Scope modelling, SWOT analysis, Vendor assessment, Workshops.		

Identify multiple strategies and choose the most appropriate strategy for the situation.

Change strategy describes nature of change in terms of:

- Change context,
- Alternative change strategies,
- Rationale behind choosing a particular strategy,
- Resources and investments to realize the future state,
- Stakeholders involved etc.

Change strategy might be presented as part of Business case, Statement of work (SoW), and enterprise's strategic plan or in other formats.

### **Elements**

#### **Solution scope**

Solution is the outcome of a change that enables the enterprise to fulfill a need. Solution scope defines the boundaries of the solution and should be described in sufficient detail. It evolves as more information becomes available over time.

#### **Gap analysis**

Identify gaps by comparing desired and existing future state of an organization. Include gaps with respect to processes, functions, staff competencies, training, tech. infrastructure etc.

#### **Enterprise readiness assessment**

Consider enterprise's capacity to:

- Make the change,
- Utilize and sustain the solution and
- Realize value from the solution.

#### **Change strategy**

Plan essential activities and events at high level to transform the enterprise from an existing state to a proposed state. Identify multiple options through brainstorming and by consulting SMEs. Selection of change strategies largely depends on organizational readiness, costs, timelines, investments etc. Business analysts may develop a business case for each potential

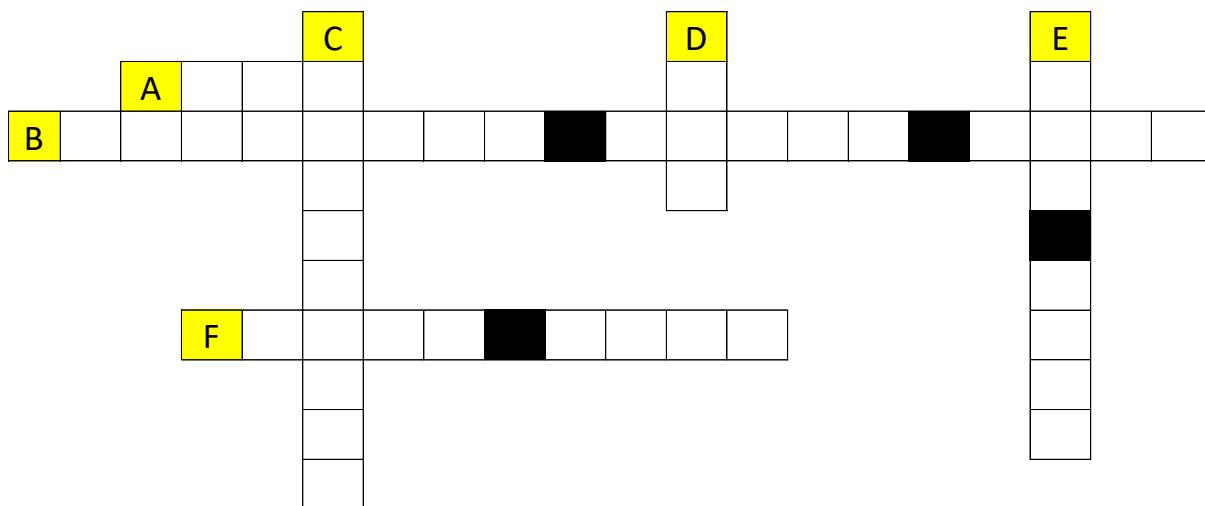
change strategy.

### **Transition states and release planning**

To attain the desired future state, an enterprise may have to undergo multiple transition states. Business analysts facilitate release planning to help stakeholders decide which requirements to include in each release, phase or iteration.

## Additional chapter end material

### (A) Crossword



A. I am the acronym for which every investor is mad after. The higher I am, the better off is the investor.

B. I was created to minimize the imbalance in corporate performance measurement.  
Who am I?

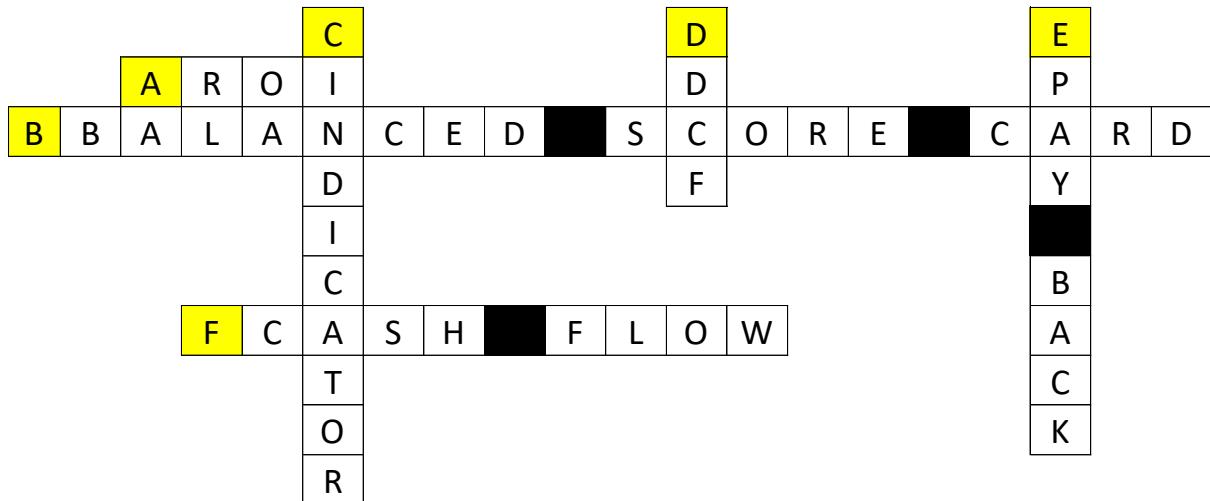
C. When you drive your car, you keep an eye on me. Cops can catch you if you ignore me.

D. I am short form to indicate how much money the investment is like to make in future, who am I?

E. I tell you the time frame to cover your investment. The lower I am, the better the investment.

F. I am the holy grail for all finance geeks. I determine D. Who am I?

**Answer**



## (B) Chapter Review Questions

1. Organization B provides score rating points - Must haves get 10 points; discretionary items are given points ranging from one through nine. Vendor proposals are ranked against the criteria list. The vendor with the most points is selected. Techniques used during this process are
  - A. Vendor assessment, decision analysis, and key performance indicators.
  - B. Vendor assessment, key performance indicators, and acceptance / evaluation criteria.
  - C. Decision analysis, structured walkthrough, and functional decomposition.
  - D. Decision model, Activity diagram, Financial analysis.
  
2. Business analyst B has been trying to figure out how best to validate the solution scope with the stakeholders, both business and technical. How can B best validate the solution scope with the stakeholders?
  - A. Conduct focus group with SMEs.
  - B. Have a brainstorming session with the stakeholders.
  - C. Create a business process model and schedule a walkthrough or review.
  - D. Do nothing at all. The architect is responsible for validating solution scope.
  
3. Domain SME Q decided to leave organization B when the requirements were being reviewed with the senior management. Unfortunately, Business Analyst Q has not identified any other Domain SME to provide clarifications on the requirements. This happened due to
  - A. Improper stakeholder identification.
  - B. Improper stakeholder management.
  - C. Improper risk identification.
  - D. Improper risk mitigation.

4. Business analyst Z has obtained the following project vision, "To digitally enable the organization with latest technologies." What should Z do now before she interacts with other stakeholders?
- A. This is a good enough starting point.
  - B. Think about solution approaches.
  - C. Select a partner to start the project.
  - D. Detail out desired outcome.
5. Business analyst Z has developed the following objective for a change initiative. "The project will automate human resource activities in the organization within the next 1 year." What should Z do next?
- A. Identify the solution scope.
  - B. Ask the development team to develop an HRMS system.
  - C. Purchase a simple HRMS from the market as it is the #1 HRMS available.
  - D. Current and future state of the organization.
6. Business Analyst B has been asked to define a business case for a new initiative involving selling pets in retail stores. As part of the work, B defined the business need and developed a list of capabilities that differentiates B's organization from its competitors. What has B documented?
- A. Core capabilities
  - B. Differentiating capabilities
  - C. USP capabilities
  - D. Essential capabilities
7. Organization B has just determined that a new system is needed to meet a new market opportunity. Business Analyst B has been asked to evaluate and investigate the underlying rationale. B needs to ensure that the widest possible range of alternate solutions are considered. What is the output of B's work?

- A. Solution space.
  - B. Business objectives.
  - C. Solution approach.
  - D. Business need.
8. Organization B would like to expand into a different country. Business analyst Z has identified the following approach. 1. Open a new office in the target country 2. Identify a new partner in the target country 3. Sell its products from the host country through the internet. What has Z identified?
- A. Solution scope.
  - B. Change strategy.
  - C. Solution space.
  - D. Business needs.
9. Organization B is a leading book publisher. It has observed the trend of growing e-books which are likely to replace the physical books over time. The sale of the paper book division has dropped significantly over the last 5 years. Organization B loves taking risky projects and has had great success in venturing into the unknown territory. The likely option for Organization B would be to
- A. Drop paper books and go for e-books.
  - B. Launch products in e-book format along with paper books.
  - C. Promote paper books aggressively.
  - D. Acquire another paper books publisher to boost the sales.
10. Organization B is a leading film entertainment provider. It has observed that many end-users have started using mobile devices to access entertainment content. Business analyst B should
- A. Ignore the trend as mobile is an immature market.
  - B. Estimate the current and future demands on mobile devices.

- C. Develop solutions for mobile devices.  
 D. Discontinue paper magazines.

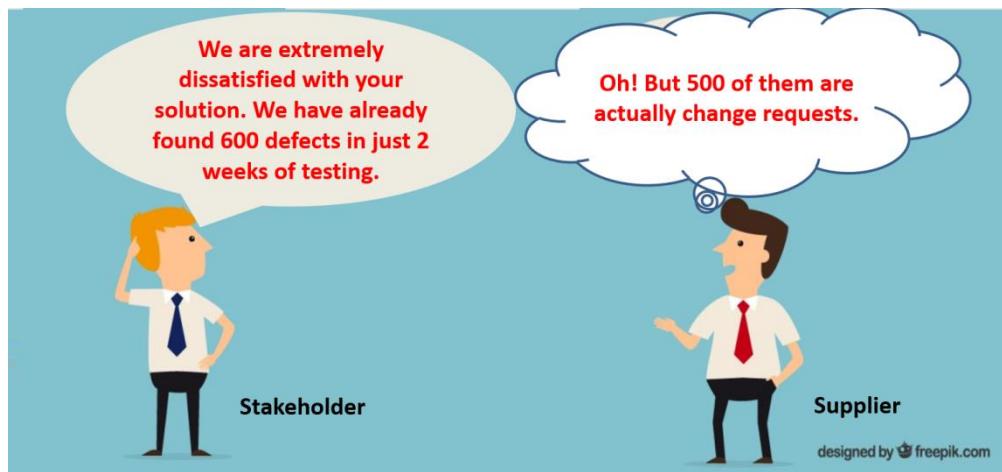
**Answers**

<b>Q #</b>	<b>Correct Option</b>	<b>Explanation</b>
1	B	<p>Observe that the company is trying to evaluate vendors. It has defined key performance parameters and has also developed evaluation criteria. Decision analysis is used for uncertain and complex situation which is not the case here.</p> <p>BABOK V3.0 - Section 10.16.1 - Purpose - Decision analysis formally assesses a problem and possible decisions in order to determine the value of alternate outcomes under conditions of uncertainty.</p>
2	C	<p>Business process models describe how businesses are conducted and can help in deciding solution scope.</p> <p>BABOK V3.0 - Section 6.4.6 - Techniques - Process Modelling: used to describe how work would occur in the solution scope or during the change.</p>
3	C	<p>Since the risk itself was not identified, nothing could have been done about the incident.</p> <p>BABOK V3.0 - Section 10.38.3 - Elements - .1 Risk Identification Risks are discovered and identified through a combination of expert judgment, stakeholder input, experimentation, past experiences, and historical analysis of similar initiatives and situations. The goal is to identify a comprehensive set of relevant risks and to minimize the unknowns.</p>

Q #	Correct Option	Explanation
4	D	<p>Since the vision is at a very high level, it is essential to have a more detailed description of the outcome.</p> <p>BABOK V3.0 - Section 6.2.2 - Description - The future state will be defined at a level of detail that:</p> <ul style="list-style-type: none"> <li>• allows for competing strategies to achieve the future state to be identified and assessed,</li> <li>• provides a clear definition of the outcomes that will satisfy the business needs,</li> <li>• details the scope of the solution space,</li> <li>• allows for value associated with the future state to be assessed, and</li> <li>• enables consensus to be achieved among key stakeholders.</li> </ul>
5	A	<p>This is too broad a statement. The scope is not specific.</p> <p>BABOK V3.0 - Section 6.2.2 - Description - The future state will be defined at a level of detail that:</p> <ul style="list-style-type: none"> <li>• allows for competing strategies to achieve the future state to be identified and assessed,</li> <li>• provides a clear definition of the outcomes that will satisfy the business needs,</li> <li>• details the scope of the solution space,</li> <li>• allows for value associated with the future state to be assessed, and</li> <li>• enables consensus to be achieved among key stakeholders.</li> </ul>
6	A	<p>BABOK V3.0 - Section 6.4.1.3 - Core capabilities or processes describe the essential functions of the enterprise that differentiate it from others.</p>
7	A	<p>Solution space enlists all possible solution options.</p> <p>BABOK V3.0 - Section 6.2.4.2 - Decisions must be made about the range of solutions that will be considered to meet the business goals and objectives.</p>

Q #	Correct Option	Explanation
8	B	<p>Z has identified a change strategy as different change methods have been discussed.</p> <p>BABOK V3.0 - Section 6.3.5 - Change Strategy: provides the plan to transition from the current state to the future state and achieve the desired business outcomes.</p>
9	A	<p>Given the risk-taking nature of the organization.</p> <p>This is based on scenario context - BABOK reference is not necessary.</p>
10	B	<p>This is needed before developing a business case.</p> <p>This is based on scenario context - BABOK reference is not necessary.</p>

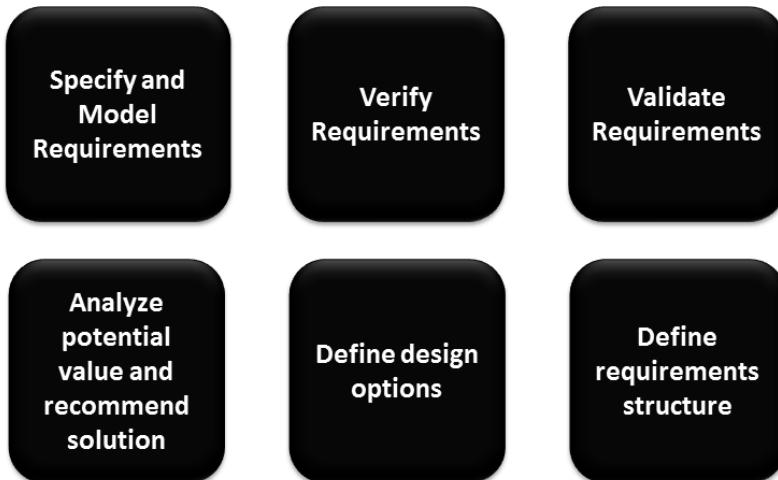
## 7. Requirements Analysis and Design Definition



### Purpose of the KA:

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.

In this knowledge area, business analysts perform the following tasks:



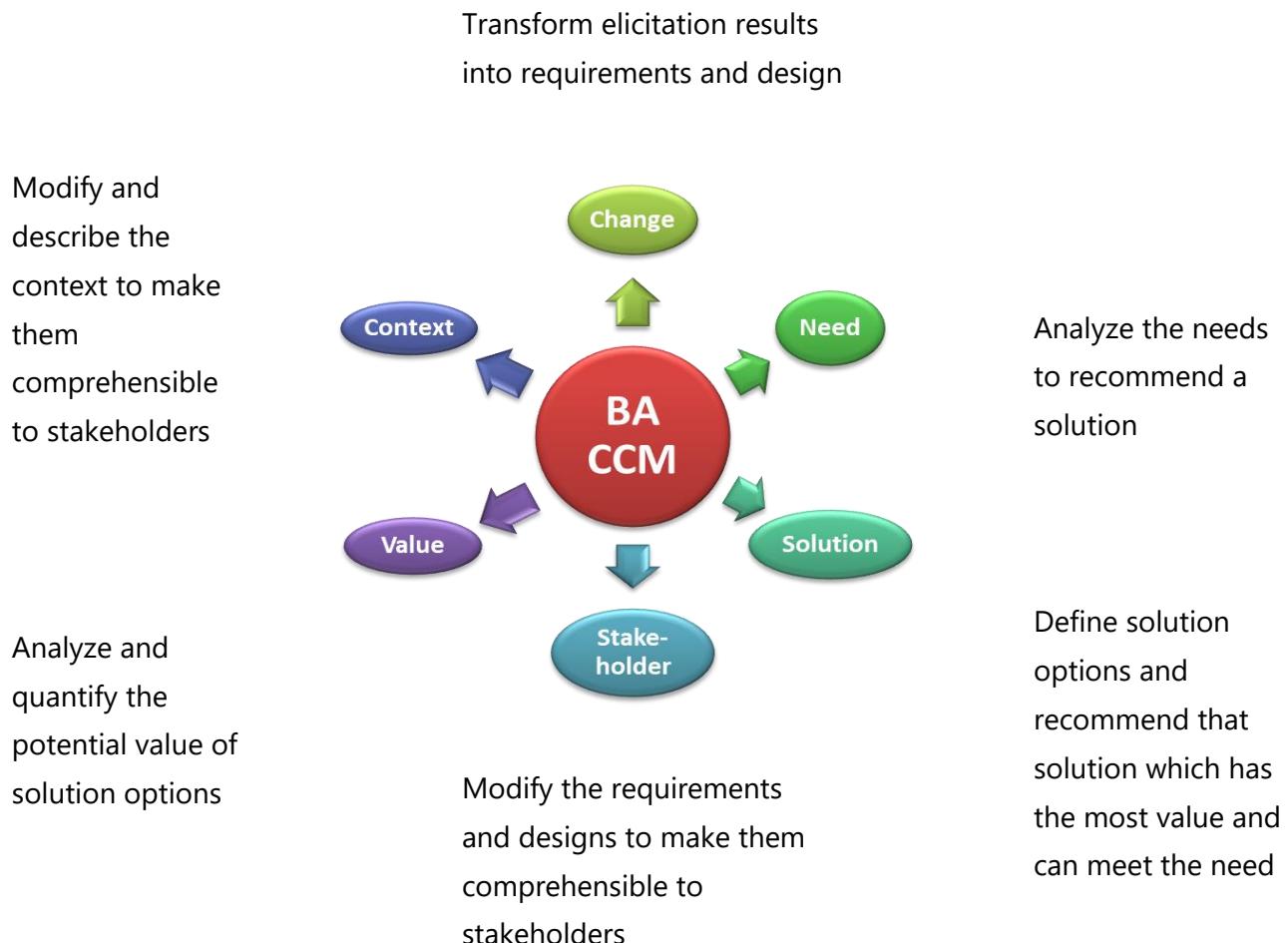
## Knowledge area Inputs, Tasks and Outputs

Inputs	Tasks	Outputs
Requirements(Any state)	Specify and model requirements	Requirements (Specified and modeled)
Information management approach	Verify requirements	Requirements (Verified)
Elicitation results (Any state)	Validate requirements	Requirements (Validated)
Potential value	Define requirements architecture	Requirements architecture
Solution scope	Define design options	Design options
Change strategy	Analyze potential value and recommended solution	Solution recommendation

## Guidelines and Tools

Guidelines and tools	Description
Architecture management software	Modeling software's help in managing volume, complexity and versions of the relationships within the requirements architecture. <i>In simple terms, Requirements management software.</i>
Existing solutions	Existing products or services, often third party, which are considered as components of design option?
Modeling notations/standards	Helps requirements and designs to be precisely specified.
Modeling tools	Tools that facilitate drawing and storing matrices and diagrams to represent requirements.
Requirements (Traced)	Requirements for which relationships to other requirements, solution components, or releases, phases, or iterations are established.
Requirements life cycle management tools	Tools that facilitate recording, organizing, storing and sharing requirements and designs.
Risk analysis results	Risks identified as critical for achieving desired outcome should be addressed.

## Core Concept Model in Requirements Analysis and Design Definition



## 7.1 Specify and Model Requirements

<b>Purpose:</b> To analyze, synthesize and refine elicitation results into requirements and designs.		
Inputs	Stakeholders	Outputs
Elicitation results (Any state)	All	Requirements (Specified and modelled)
<b>Guidelines and Tools:</b> Modelling notations/standards, Modelling tools, Requirements architecture, Requirements life cycle management tools, Solution scope.		
<b>Techniques:</b> Acceptance and evaluation criteria, Business capability analysis, Business model canvas, Business rules analysis, Concept modelling, Data dictionary, Data flow diagrams, Data modelling, Decision modelling, Functional decomposition, Glossary, Interface analysis, Non-functional requirements analysis, Organizational modelling, Process modelling, Prototyping, Roles and permissions matrix, Root cause analysis, Scope modelling, Sequence diagrams, Stakeholder list, Map, or Personas, State modelling, Use cases and scenarios, User stories.		

### Elements

Models abstract and simplify reality in a useful way. Models are never a complete description of reality.

#### Model requirements

**Matrices:** Used to model complex requirements with uniform structure. A table is the simplest form of a matrix.

**Diagrams:** Visual representation of requirements.

Model categories can include people and roles, rationale, activity flow, capability, data and information etc. There are a number of general modeling concepts that are relevant to BA:

<b>Model class</b>	<b>Description</b>	<b>Modeling techniques</b>
People and roles	Organizational structure	Organization models Roles and permissions matrix Stakeholder list, maps and Personas Process models Use cases
Rationale	( <i>What and</i> )Why of a change	Decision modeling Scope modeling Business model canvas Root cause analysis Business rules analysis
Activity flow	Sequence of actions, events	Process model Use case and scenarios User stories
Capability ( <i>Features</i> )	Features and functions	Business capability analysis Functional decomposition Prototyping
Data and information	Characteristics and exchange of information	Data dictionary Data flow diagram

		Data modeling Glossary State modeling Interface analysis
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### **Analyze requirements**

Analysis helps to examine any missing or unnecessary components, any constraints or assumptions and conclude on the solution options.

### **Represent requirements and attributes**

Explicitly specify requirements in sufficient details for being incorporated in solution.

### **Implement appropriate levels of abstraction**

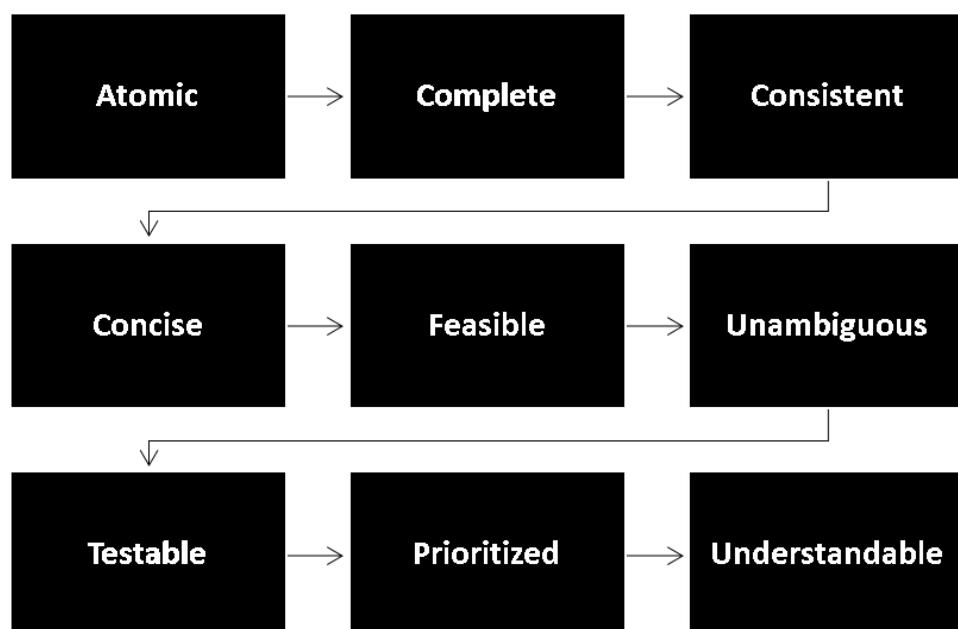
Produce different views (various requirements levels such as business, stakeholder and solution requirements) for different stakeholders as all stakeholders might not find value in the complete set of requirements and models.

## 7.2 Verify Requirements

<b>Purpose:</b> To ensure that requirements and designs specifications and models meet quality standards and are usable for the purpose they serve.		
Inputs	Stakeholders	Outputs
Requirements (Specified and modelled)	All	Requirements (Verified)
<b>Guidelines and Tools:</b> Requirements life cycle management tools.		
<b>Techniques:</b> Acceptance and evaluation criteria, Item tracking, Metrics and key performance indicators (KPIs), Reviews.		

### Elements

#### Characteristics of requirements and designs quality



- Check for compliance with organizational performance standards,
- Check for correct use of modeling language,
- Check for completeness within each model,

- Compare one model with others to find out missing aspects,
- Ensure the consistency and use of terminologies,
- Add examples where necessary for clarification.

### Checklists

- Use checklists for quality control and to ensure that necessary items are included in the final requirements deliverables.

## 7.3 Validate Requirements

<b>Purpose:</b> To ensure that all requirements and designs align to the business requirements and support the delivery of needed value.		
Inputs	Stakeholders	Outputs
Requirements (Specified and modelled)	All	Requirements (Validated)
<b>Guidelines and Tools:</b> Business objectives, Future state description, Potential value, Solution scope.		
<b>Techniques:</b> Acceptance and evaluation criteria, Document analysis, Financial analysis, Item tracking, Metrics and key performance indicators (KPIs), Reviews, Risk analysis and management.		

Requirements validation is an on-going process to ensure stakeholder, solution and transition requirements are aligned to business requirements.

Implementation of the requirements as a whole must be sufficient to achieve the desired future state. In many cases, stakeholders have different, conflicting needs and expectations that may be exposed through the validation process and will need to be reconciled.

## Elements

### Identify assumptions

When there are no prior experiences to rely upon, it may be necessary to make assumptions about customer or stakeholder response. Identify and document assumptions, confirm accuracy of the assumptions, identify and manage risks related to the ability of a solution to meet business needs

### Define measurable evaluation criteria

Define evaluation criteria to evaluate the success of the implemented solution.

### Evaluate alignment with solution scope

When requirements do not align, either the future state must be re-evaluated, and the Solution scope changed, or the requirement removed from the solution scope.

## 7.4 Define Requirements Architecture

<b>Purpose:</b> To ensure that the requirements collectively support one another to fully achieve business objectives.		
Inputs	Stakeholders	Outputs
Information management approach Requirements (Any state) Solution scope	All	Requirements architecture( <i>In simple terms, complete requirements documentation – Business, Stakeholder, Solution and Transition requirements</i> )
<b>Guidelines and Tools:</b> Architecture management software, Legal/Regulatory information, Methodologies and frameworks.		
<b>Techniques:</b> Data modelling, Functional decomposition, Interviews, Organizational modelling, Scope modelling, Workshops.		

Requirements architecture is the structure of all of the requirements of a change. It shows how elements support the business requirements and how they can be structured to align to

the viewpoints (various requirements levels such as business, stakeholder and solution requirements).

### **Requirements viewpoints (Requirements levels such as business, stakeholder and solution) and views**

Viewpoints suggest what information should be provided to each stakeholder group as different groups of stakeholders have different concerns. It defines how requirements will be represented, related and organized. Views describe actual requirements and designs that are produced. A collection of views makes up the requirements architecture for a specific solution.

### **Template architecture**

An architectural framework is a collection of viewpoints (various requirements levels such as business, stakeholder and solution) that is standard across an industry, sector or organization.

### **Completeness**

An architecture helps ensure that a set of requirements is complete. Requirements should be complete and cohesive and should not have any missing requirements or contradictions.

### **Relate and verify requirements relationships (*Review traceability matrix*)**

*Examine each relationship to ensure that the relationships satisfy following quality criteria:  
Defined, Necessary, Correct, Unambiguous and Consistent.*

### **Business analysis information architecture**

Information architecture is part of the requirements architecture as it describes how all of the Business analysis information for a change relates. Understanding this type of information structure helps to ensure that the full set of requirements is complete by verifying the relationships are complete.

## 7.5 Define Design Options

<p><b>Purpose:</b> To define the solution approach, identify opportunities to improve the business, allocate requirements across solution components and represent design options that achieve the desired future state.</p>		
Inputs	Stakeholders	Outputs
Change strategy  Requirements (Validated, Prioritized)  Requirements architecture	Domain SME, Implementation SME, Operational support, Project manager, Supplier	Design options
<p><b>Guidelines and Tools:</b> Existing solutions, Future state description, Requirements (Traced), Solution scope.</p>		
<p><b>Techniques:</b> Benchmarking and market analysis, Brainstorming, Document analysis, Interviews, Lessons learned, Mind mapping, Root cause analysis, Survey or Questionnaire, Vendor assessment, Workshops.</p>		

Each design option represents a way to satisfy a set of requirements. Effect of tactical trade-offs made among design alternatives **must** be assessed.

### Elements

#### Define solution approaches

Solution approaches describe whether solution components will be created purchased or a combination of both will be used. It includes:

**Create:** Solution components are assembled, constructed, or developed by experts

**Purchase:** Solution components are selected from a set of offerings

**Combination of both:** Design options may include a combination of both creation

and purchase of components.

### **Identify improvement opportunities**

Some common examples of opportunities include:

**Increase efficiencies:** By automation or simplification of the work performed by people

**Enhance access to information:** Provide greater access to information for the staff who interacts with customers.

**Identify additional capabilities:** Highlight capabilities that will add value in future and at the same time can be supported by the solution.

### **Requirements allocation**

Requirements allocation is the process of assigning requirements to solution components and releases to best achieve the objectives. It typically continues through design and implementation of a solution.

### **Describe design options**

Design option consists of several design components, each described by a design element. Design elements describe Business policies, rules, processes, and decisions to be made, people who operate and maintain the solution.

## 7.6 Analyze Potential Value and Recommend Solution

<b>Purpose:</b> To estimate the potential value for each design option and to establish which one is most appropriate to meet the enterprise's requirements.		
Inputs	Stakeholders	Outputs
Potential value  Design options	Customer, Domain SME, End User, Implementation SME, Project manager, Regulator, Sponsor	Solution recommendation
<b>Guidelines and Tools:</b> Business objectives, Current state description, Future state description, Risk analysis results, Solution scope.		
<b>Techniques:</b> Acceptance and evaluation criteria, Backlog management, Brainstorming, Business cases, Business model canvas, Decision analysis, Estimation, Financial analysis, Focus groups, Interviews, Metrics and key performance indicators (KPIs), Risk analysis and management, Survey or Questionnaire, SWOT analysis, Workshops.		

Value can be described in many forms like finance, reputation, impact in the marketplace etc. While analyzing potential value and recommending solution, estimation and modeling the potential value delivered by a set of requirements, designs, or Design options is carried out. Design options are evaluated by comparing the potential value of each option to the other options.

### Elements

#### Expected benefits

Expected benefits describe the positive value that a solution is intended to deliver to stakeholders. It is determined based on the benefits that the stakeholders' desire and what is possible to attain. It is realized over a period of time.

### **Expected costs**

Comprises of costs to acquire a solution, negative effects it may have on stakeholders and costs to maintain it over time.

Opportunity costs describe the benefits that could have been attained by taking an alternative design option.

### **Determine value**

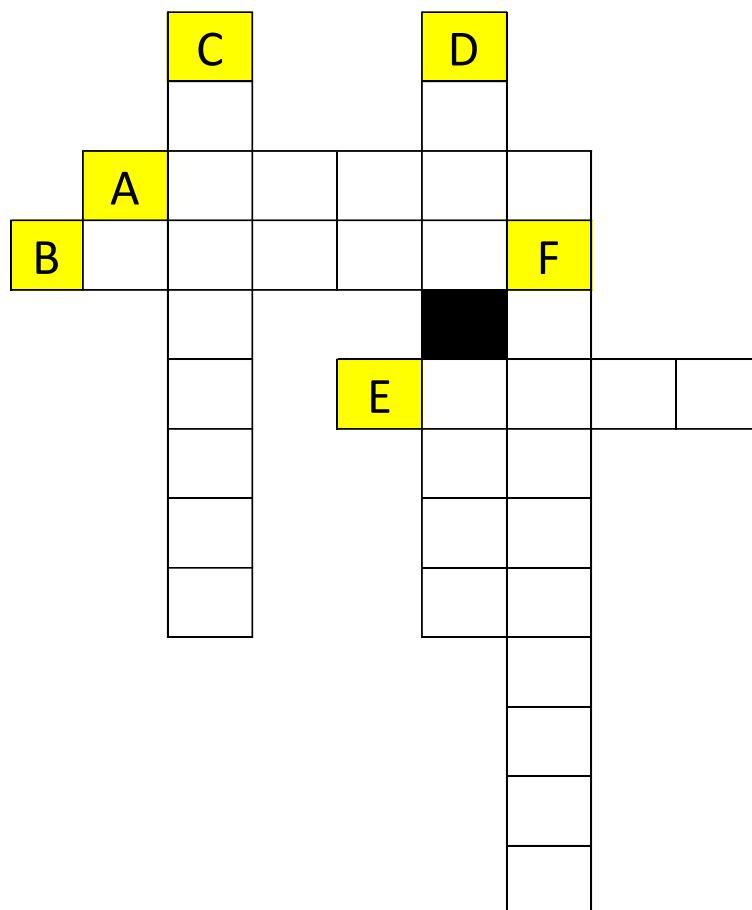
The potential value of a solution to a stakeholder is based on the benefits delivered by that solution and the associated costs. It is positive if benefits exceed the cost and negative if cost exceeds the benefits.

### **Assess design options and recommend solution**

Assess each design option to ensure it represents the most effective trade-offs. Use factors like resource availability, constraints on solution, dependencies between requirements, corporate culture, investment etc.

## Additional chapter end material

### (A) Crossword

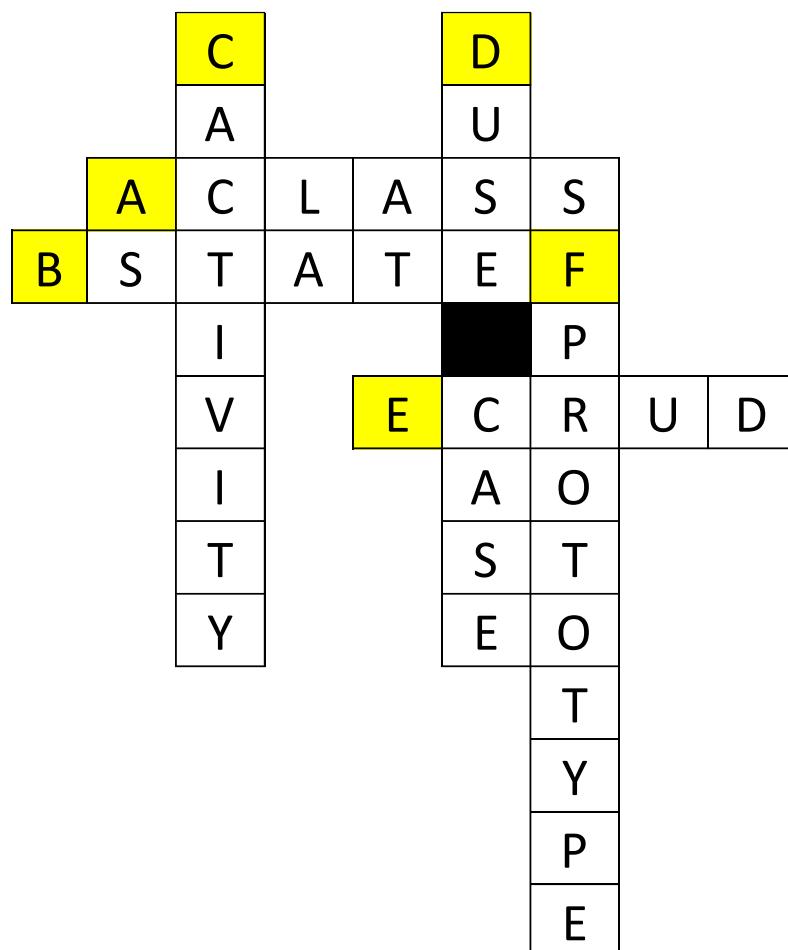


- A. I am the modeling technique which is used when the focus is data structure of the solution. In my earlier avatar, I was popularly known as Entity-Relationship diagram.
- B. I represent the various statuses of A. Who am I?
- C. Life is not static. Better be not. I show you steps of a process.
- D. I show you features of a solution and its boundary, who am I?

E. I am also known as fundamental operations on data. Twist me and I turn into a healthy snack.

F. I am the technique which users love. They can play with me. Who am I?

**Answer**

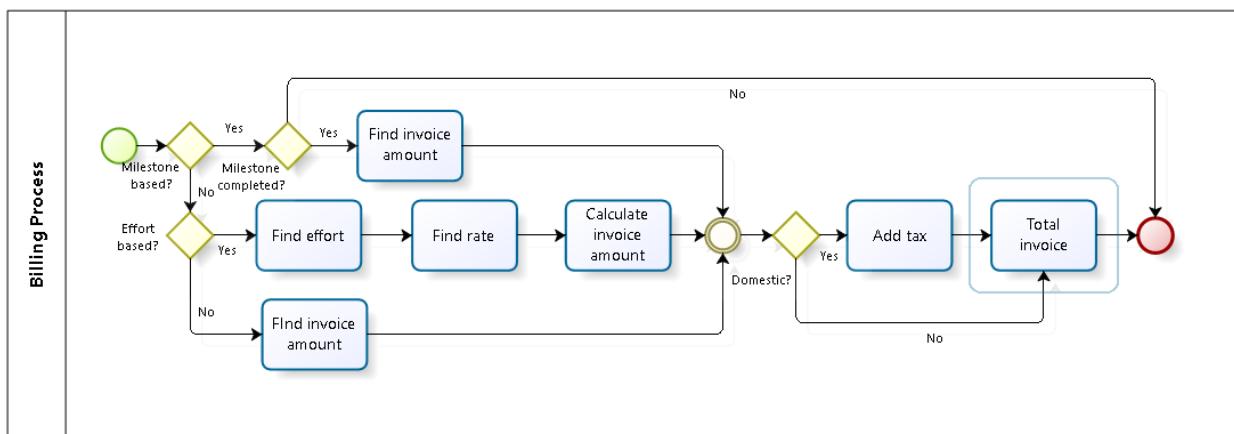


## (B) Chapter Review Questions

1. Business analyst B is struggling with how to model requirements in the best way possible for the project. In particular, the business wants to allow mortgage applicants the ability to save their application and resume it later in the future if they cannot complete the application in one sitting. Which of the following options describes the above information?
  - A. Process modeling.
  - B. Goal decomposition.
  - C. Use Cases.
  - D. Scenarios.
  
2. Stakeholder S provided the following requirement, "The system should be able to manage schedule". The project glossary document does not describe the verb, Manage. It is possible that the term manage can be broken down further. The reason why the requirement needs revision is because the requirement is
  - A. Not clear.
  - B. Not atomic.
  - C. Not testable.
  - D. Not understandable.
  
3. Business analyst B is a business analyst in the telecom domain. The telecom domain has strict standards to make sure systems can interconnect and work well. B should look for which among the following to develop requirements in this domain?
  - A. Viewpoint.
  - B. Traceability matrix.
  - C. Requirements management plan.
  - D. Business analysis plan.

4. Organization B would like to have an HRMS for managing its employee related activities. Z is a business analyst for the project. Z's options are
- A. Purchasing a human resource management system as it will be a less expensive option.
  - B. Develop human resource management system so that all functionalities can be implemented as per organizational needs.
  - C. Outsource the human resource activities.
  - D. Can't decide given the limited information.
5. Business analyst B's stakeholder S argues that it is not necessary to create multiple models as it is time consuming. Business analyst B's defense can be
- A. The stakeholder is factually correct.
  - B. Only 2 models are enough.
  - C. All models mentioned in BABOK should be captured.
  - D. Models can find discrepancies in requirements.
6. Stakeholder S has provided the following requirement, "We would like to make the application highly usable." What would be the correct approach to handle this?
- A. Agree with the stakeholder as usability is an important requirement.
  - B. Tell the stakeholder that since the product is a technical product there is no need for usability.
  - C. Work with the stakeholder to define usability objectively.
  - D. Hire a UX expert to help in usability aspect.
7. Business Analyst B wants to design a requirements document in such a way that it is particularly well suited for the people who will work with the document in further phases of the development process. Which of the following is the correct combination of role and requirements characteristics?
- A. For the testers, the requirements have to be realizable.

- B. For the developers, the requirements have to be easily changeable.
- C. For all the people involved, the requirements have to be consistent.
- D. For the maintenance staff, the requirements have to be prioritized.
8. B is a business analyst for the upcoming order management system for B's organization. What could be the reason for B to choose following techniques the following tools? 1. Mind-map 2. Functional decomposition 3. Business model canvas
- A. All are visual diagrams.
- B. All these can be used to capture detailed requirements.
- C. All BAs must know them.
- D. All these tools do not require any brainstorming.
9. Which among the following statements is correct regarding models?
- A. Models map reality through a set of graphical symbols.
- B. Requirements models have only simple constructs.
- C. Semantics of a model defines the model elements and their valid combinations.
- D. Syntax of a model defines the meaning of a specific model instance.
10. ABC Technologies would like to automate its billing process. Business analyst B has developed the following flow chart for the process. There are two types of billing-milestone based and time and material (T&M) based. Which of the following statements is true?



- A. ABC Technologies carries out only Time and Material based projects
- B. Milestone based projects are invoiced before the end of a milestone.
- C. T&M projects can be billed on a monthly basis based on the effort spent.
- D. For a domestic project, tax need not be applied.

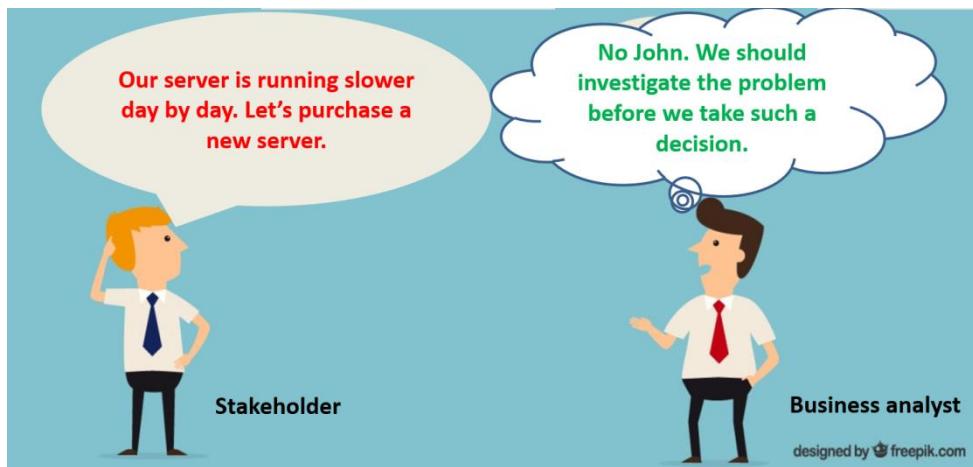
#### Answers

Q #	Correct Option	Explanation
1	D	<p>Since the process requires a save and submit option which is a different option than submitting straight through.</p> <p>BABOK V3.0 - Section 10.47.2 - Description - Paragraph 5 - A scenario describes just one way that an actor can accomplish a particular goal. Scenarios are written as a series of steps performed by actors or by the solution that enable an actor to achieve a goal. A use case describes several scenarios.</p>
2	B	<p>Words like "Manage" can be broken down, so they are non-atomic.</p> <p>BABOK V3.0 - Section 7.2.4 - Elements - Atomic - self-contained and capable of being understood independently of other requirements or designs.</p>

Q #	Correct Option	Explanation
3	A	<p>Viewpoints suggest standard requirements for a domain.</p> <p>BABOK V3.0 - Section 7.4.4 - Elements - .1 Requirements Viewpoints and Views A viewpoint is a set of conventions that define how requirements will be represented, how these representations will be organized, and how they will be related. Viewpoints provide templates for addressing the concerns of particular stakeholder groups.</p>
4	D	<p>Decision making requires considering multiple aspects. Information provided in the question may not be adequate.</p> <p>This is a common theme in BABOK - adequate contextual information is needed to make decisions.</p>
5	D	<p>Each model has its own unique strengths.</p> <p>BABOK V3.0 - Section 7.1.4 - Business analysts should use any combination of models best suited to meets takeholder needs in a given context. Each modelling technique has strengths and weaknesses and provides unique insights into the business domain.</p>
6	C	<p>A precise and testable definition of requirements is needed.</p> <p>BABOK V3.0 - Section 7.2.4 - Unambiguous: the requirement must be clearly stated in such a way to make it clear whether a solution does or does not meet the associated need.</p>
7	C	<p>This is a key quality requirement for requirements.</p> <p>BABOK V3.0 - Section 7.2.4 - Consistent: aligned with the identified needs of the stakeholders and not conflicting with other requirements.</p>
8	A	<p>Properties of these techniques.</p> <p>BABOK V3.0 - Chapter 10 - Multiple techniques</p>

Q #	Correct Option	Explanation
9	A	<p>Definition of models.</p> <p>BABOK V3.0 - Section Glossary: M: model: A representation and simplification of reality developed to convey information to a specific audience to support analysis, communication, and understanding.</p>
10	C	<p>As per the diagram.</p> <p>This is based on scenario context - BABOK reference is not necessary.</p>

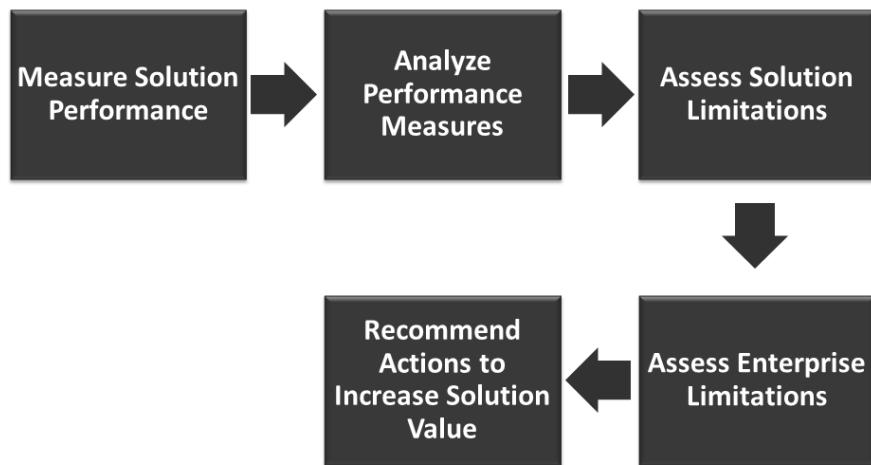
## 8. Solution Evaluation



### Purpose of the Knowledge area:

To analyze solution performance and value delivery and identify actions to improve solution value.

### 5 following tasks:



This knowledge area deals with tasks that business analysts carry out to assess the performance of and value delivered by a solution and to get rid of obstacles that prevent it from realizing its full value. This is done by analyzing the actual value delivered, identifying

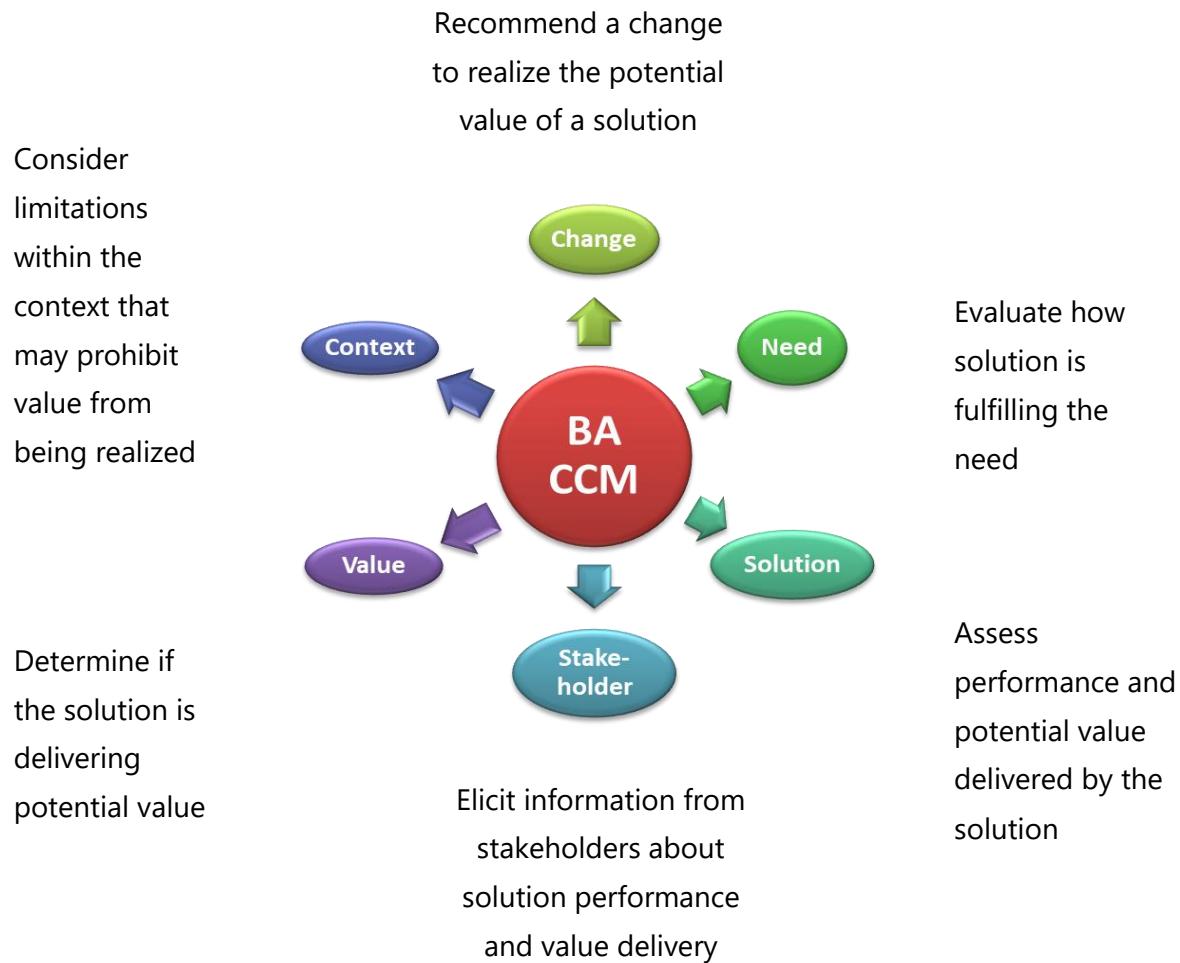
constraints in realizing the value and making recommendations. Solution evaluation tasks can be performed on solution components at various stages of development like prototype/proofs of concept, pilot or beta releases (limited implementations) or operational releases (full versions).

## Knowledge Area Inputs, Tasks and Outputs

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Inputs	Tasks	Outputs
Implemented solution (External)	Measure solution performance	Solution performance measures
Current state description	Analyze performance measures	Solution performance analysis
Business objectives	Assess solution limitations	Solution limitation
Potential value	Assess enterprise limitations Recommend actions to increase solution value	Enterprise limitation Recommend actions

## Core Concept Model in Solution Evaluation



## 8.1 Measure Solution Performance

<b>Purpose:</b> To define performance measures and use the data collected to evaluate the effectiveness of a solution in relation to the value it brings.		
Inputs	Stakeholders	Outputs
Business objectives  Implemented solution (External)	Customer, Domain subject matter expert, End user, Project manager, Sponsor, Regulator	Solution performance measures
<b>Guidelines and Tools:</b> Change strategy, Future state description, Requirements (Validated), Solution scope.		
<b>Techniques:</b> Acceptance and evaluation criteria, Benchmarking and market analysis, Business cases, Data mining, Decision analysis, Focus groups, Metrics and key performance indicators (KPIs), Non-functional requirements analysis, Observation, Prototyping, Survey or Questionnaire, Use cases and scenarios, Vendor assessment.		

Business analysts work with stakeholders to determine and collect measures for solutions that do not have built-in performance measures. Performance can be evaluated by means of key performance indicators (KPIs), goals and objectives for a project, process performance targets, tests for software applications etc.

### Elements

#### Define solution performance measures

Use relevant existing performance measures or define new measures for measuring solution performance. These may be quantitative (numerical, countable etc.) as well as qualitative (subjective and includes attitudes, perceptions etc.).

Business goals, objectives and business processes are common sources of measures.

**Validate performance measures**

Validate solution performance measures with key stakeholders to ensure it is relevant.

**Collect performance measures**

Use statistical techniques for collecting data. Consider volume or sample size, frequency, time, currency of measurements.

## 8.2 Analyze Performance Measures

<b>Purpose:</b> To provide insights into the performance of a solution in relation to the value it brings.		
Inputs	Stakeholders	Outputs
Potential value  Solution performance measures	Domain SME, Project manager, Sponsor	Solution performance analysis
<b>Guidelines and Tools:</b> Change strategy, Future state description, Risk analysis results, and Solution scope.		
<b>Techniques:</b> Acceptance and evaluation criteria, Benchmarking and market analysis, Data mining, Interviews, Metrics and key performance indicators (KPIs), Observation, Risk analysis and management, Root cause analysis, Survey or Questionnaire.		

## **Elements**

### **Solution performance versus desired value**

There can be solutions which are low performing but offer significant potential valuable. Such solutions should be improved further.

## **Risks**

Performance measures help in identifying new risks to solution performance and to the enterprise.

## **Trends**

Trends provide better depiction of solution performance. Observe the trends to decide on improvement opportunities.

## **Accuracy**

Reliability and accuracy of performance measures is decided based on its reproducibility (different personnel reaching same conclusion) and repeatability (same person reaching same conclusion over a period of time).

## **Performance variances**

*Variance is the difference between expected and actual performances. Usually computed as (Actual value – Target value) \*100/Target value.*

## 8.3 Assess Solution Limitations

<p><b>Purpose:</b> To determine the factors internal to the solution those restrict full realization of value.</p>		
Inputs	Stakeholders	Outputs
Implemented solution (External)  Solution performance analysis	Customer, Domain SME, End user, Regulator, Sponsor, Tester	Solution limitation
<p><b>Guidelines and Tools:</b> Change strategy, Risks analysis results, Solution scope.</p>		
<p><b>Techniques:</b> Acceptance and evaluation criteria, Benchmarking and market analysis, Business rules analysis, Data mining, Decision analysis, Interviews, Item tracking, Lessons learned, Risk analysis and management, Root cause analysis, Survey or Questionnaire.</p>		

Identify root causes for under-performing and ineffective solutions and solution components. If the solution has not met its potential value, business analysts determine which factors, both internal and external to the solution, are limiting its value. This evaluation can be done at point during the solution lifecycle.

Implemented solution (external) indicates to a solution that is in use, may not be in operation, can be a prototype.

### Elements

#### Identify internal solution component dependencies

Identify solution components which have dependencies on other solution components.

Explore whether any aspect related to it is limiting the solution performance and value realization.

#### Investigate solution problems

When the solution doesn't deliver the expected potential value, or consistently delivers ineffective outputs, perform problem analysis in order to find out the root cause of the problem.

### **Impact assessment**

Review identified problems to assess the effect they may have on the operation of the organization or its ability to deliver the potential value. Identify problems which must be resolved, which can be mitigated by other activities or approaches and which can be accepted.

## **8.4 Assess Enterprise Limitations**

<b>Purpose:</b> To determine how factors external to the solution are restricting value realization.		
<b>Inputs</b>	<b>Stakeholders</b>	<b>Outputs</b>
Current state description  Implemented (Or constructed) <i>Solution (External to the project)</i>  Solution performance analysis	Customer, End user, Domain SME, Regulator, Sponsor	Enterprise limitations
<b>Guidelines and Tools:</b> Business objectives, Change strategy, Future state descriptions, Risks analysis results, Solution scope.		
<b>Techniques:</b> Benchmarking and market analysis, Brainstorming, Data mining, Decision analysis, Document analysis, Interviews, Item tracking, Lessons learned, Observation, Organizational modelling, Process analysis, Process modelling, Risk analysis and management, Roles and Permissions matrix, Root cause analysis, Survey or Questionnaire, SWOT analysis, Workshops.		

Enterprise limitations may include factors such as culture, operations, technical components, stakeholder interests, or reporting structures. Business Analysts assess enterprise limitations to identify root causes and describe how enterprise factors limit value realization.

## Elements

### Enterprise culture assessment

Enterprise culture may be defined as deeply rooted values, beliefs, attitudes and norms shared by its members culture affects actions. Enterprise culture assessment helps in determining what kind of cultural change is required to realize value from a solution, whether stakeholders understand and are supportive of the change etc.

### Stakeholder impact analysis

Understand how change will affect a particular stakeholder group. Consider following during impact analysis:

- **Functions:** Processes involving stakeholders and applications they use.
- **Locations:** Multiple locations.
- **Concerns:** Stakeholders' requirements w.r.t usability requirements and their proficiency in using computer systems. Also consider if there is any possibility of loss of jobs and plan to handle that.

### Organizational structure changes

Assess current organizational structure to check if it supports the solution. Ability to adopt a change is affected by formal and informal relationships among stakeholders.

### Operational assessment

Determine whether the organization can take advantage of the capabilities provided by the new solution.

Consider following during operational assessment:

1. Policies and procedures,
2. Capabilities and processes that enable other capabilities,
3. Skills and training needs,
4. HR practices,
5. Risk tolerance and management approaches, and

6. Tools and technology that support a solution.

## 8.5 Recommend Actions to Increase Solution Value

<b>Purpose:</b> To understand factors that creates differences between potential value and actual value and to recommend a course of action to align them.		
Inputs	Stakeholders	Outputs
Enterprise limitations  Solution limitations	Customer, Domain SME, End user, Regulator, Sponsor	Recommended actions
<b>Guidelines and Tools:</b> Business objectives, Current state descriptions, Solution scope.		
<b>Techniques:</b> Data mining, Decision analysis, Financial analysis, Focus groups, Organizational modelling, Prioritization, Process analysis, Risk analysis and management, Survey or Questionnaire.		

### Elements

#### Adjust solution performance measures

Identify and define appropriate measures for solutions which are acceptable but do not completely fulfill the business goals and objectives.

### Recommendations

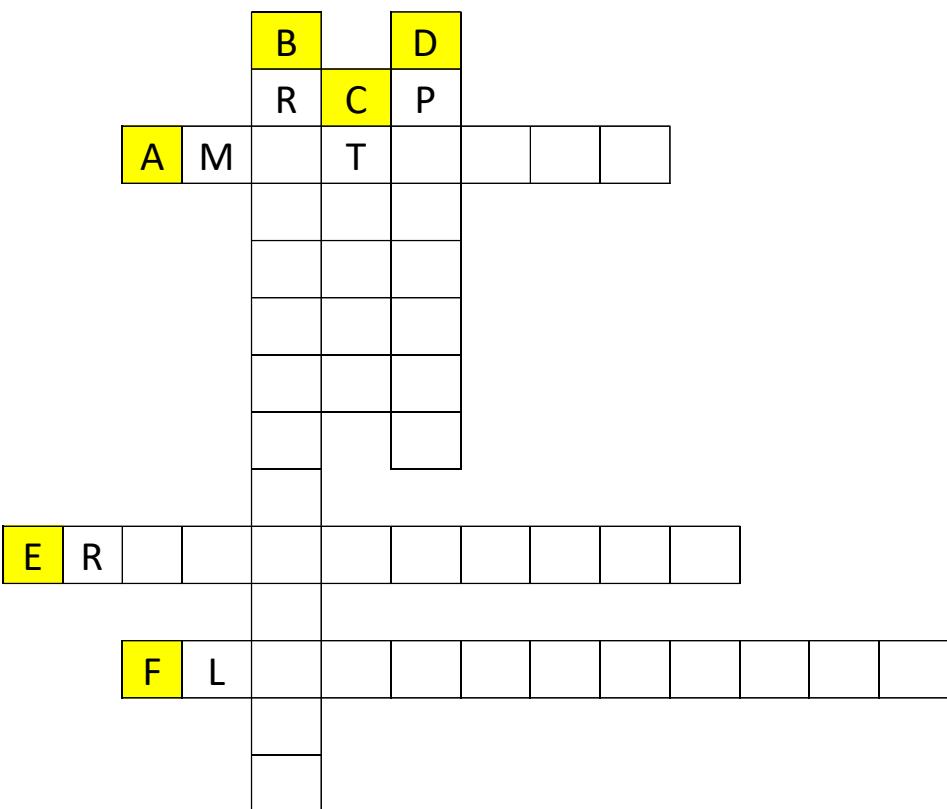
Recommend actions to improve solution performance.

<i>Do nothing</i>	<i>When value of change is low compared to the effort required for the change.</i>
Organizational change	Automating or simplifying tasks performed by people and improving access to information.
Minimize complexity	Reducing complexity of interfaces can improve understanding

of interfaces	between systems and people.
Eliminate redundancy	Single solution for common needs of stakeholders can reduce the cost of implementation.
Avoid waste	Eliminate activities which do not add value and minimize activities which do not contribute directly to the final product.
Identify additional capabilities	Those which do not add immediate value but can be of potential value when a need arises in future.
Retire the solution	When a solution is not capable of meeting the goals or the technology has outdated, it may be necessary to replace the solution or solution components. Other factors include ongoing cost versus initial investment, opportunity cost, necessity, sunk cost etc.

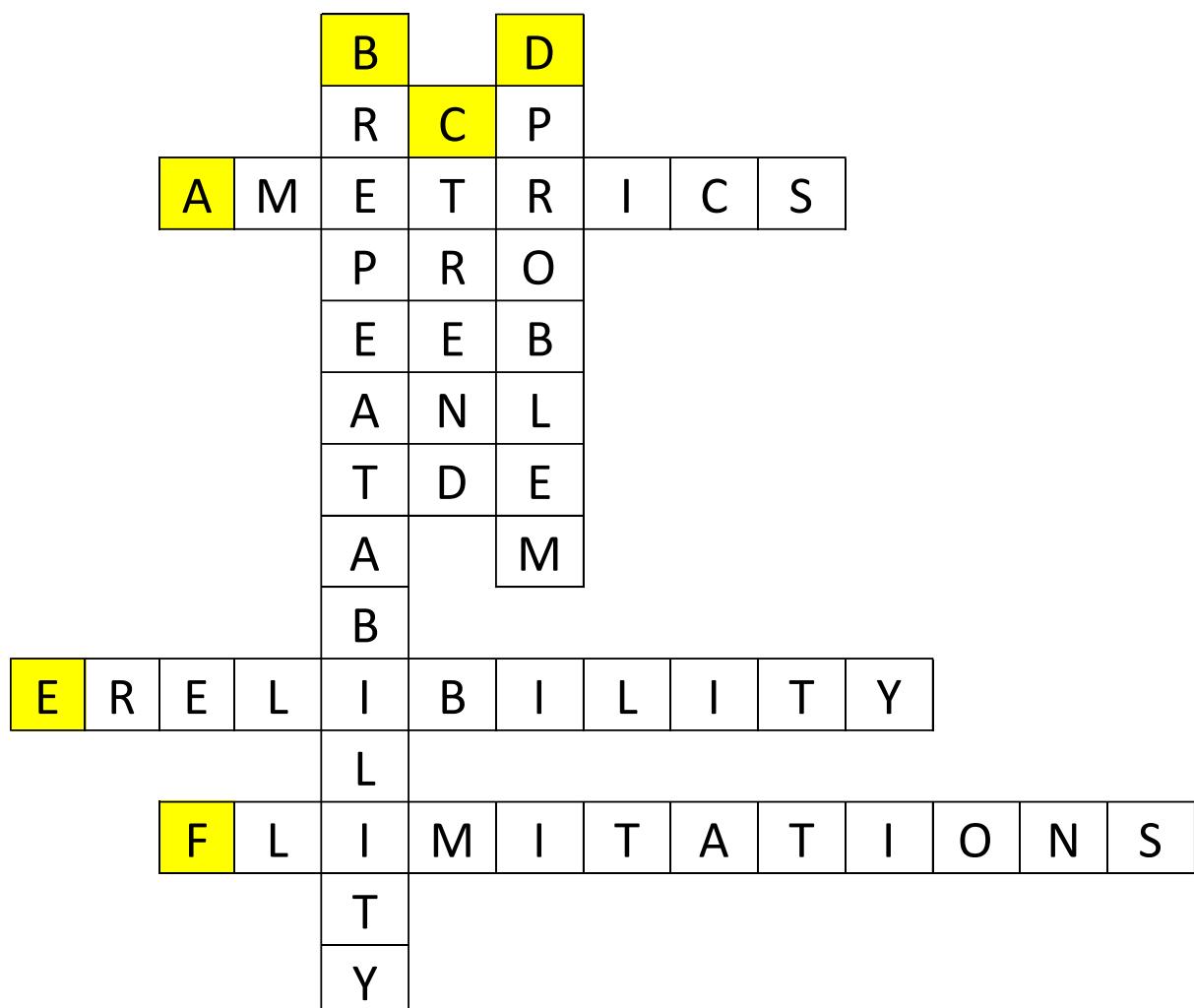
## Additional chapter end material

### (A) Crossword



- A. I am the outcome of measuring any indicator. I advocate data driven decisions.
- B. I am ensured when measurements are similar when they are carried out at different times by same person. Who am I?
- C. If you invest in stock market and the I am going up, investors are happy. I am quite helpful to indicate performance over a period of time.
- D. I am something every BA is trying to solve. Who am I?
- E. One must ensure me to be sure that the number you read on a scale is a true measure. I am linked to B as well.
- F. I am the one who is investigated for poor solution performance. Who am I?

**Answer**



## (B) Chapter Review Questions

1. Business analyst B is worried about the low adoption of the newly deployed application. The solution comes with many new features compared to the earlier application. B investigated the reason for the same to be usability aspects not being considered while developing the new application. Business analyst B should
  - A. Modify the application for better performance.
  - B. Modify the application for better security.
  - C. Modify the application for more features.
  - D. Modify the application for better user navigation.
  
2. Business Analyst B is working on a project to automate several business processes. B just received confirmation of the budget and it is clear that there is enough money to either build an in-house solution or purchase a COTS package. What is the most logical next step for B?
  - A. Pursue an RFP.
  - B. Pursue an RFI.
  - C. Purchase a COTS product as budget is available.
  - D. Insist on developing an in-house solution.
  
3. Business analyst B is implementing a new order processing system for a direct marketer. B is concerned that with the holiday season approaching, the system's performance may be inadequate. B could not find any document which has the application performance criteria mentioned. B would like to evaluate the performance of the system, but can't because
  - A. The performance metrics have not been defined.
  - B. The stakeholder and solution requirements were incomplete and the stakeholders complained of poor solution performance.
  - C. When B gathered the actual performance metrics, B found that the solution performance was indeed better than anticipated.

- D. Neither the solution validation nor the organizational readiness assessment had been completed.
4. Business analyst B does not feel the need to assess current performance. B is of the opinion that the new system is far more superior to the old one and stakeholders are anyway going to love the new application. What is the danger that B is running into?
- A. A prudent decision.
  - B. An assumption that could become a risk.
  - C. Discuss with Domain SME to seek acceptance.
  - D. Discuss with sponsor to seek acceptance.
5. Business analyst B worked on a project to implement a new system. When it was first deployed, the system seemed to be performing well. However, as the number of transactions increased over a six-month period, the application slowed to a level deemed unacceptable by the end-users. B has been asked to evaluate this performance. In order to do this, B needs to have
- A. Performance metrics of the solution.
  - B. Approval to repair any defects found.
  - C. Approval to prevent future defects.
  - D. An assessment of the solution performance.
6. Business analyst Z is in a troublesome state. The project team has completed the development. However, end users are not willing to accept the new system. They are of the opinion that they can't trust the new system as the process is very critical. What should be Z's approach in this case?
- A. Escalate the issue to the Sponsor.
  - B. Escalate the issue to the CEO.
  - C. Escalate the issue to the organization head of the end users.
  - D. Plan for a parallel run which can minimize negative impacts.

7. Stakeholders of a recently launched order management system are unhappy as the newly deployed application takes anywhere between 10 to 15 seconds to load the pages. What could be the right approach to handle the situation?

- A. Advice stakeholders to accept the problem.
- B. Ask the technical team to investigate the root cause.
- C. Observe the pages which take more time and withdraw those features.
- D. Immediately hire a performance expert to help in the performance aspect.

8. Organization B implemented an e-commerce portal 10 years back. Now B is facing serious challenges in accommodating new business needs. The old system is also quite expensive to maintain. There are many better and cheaper options available in the market now due to tremendous growth of e-commerce. B should

- A. Consider retiring the old application.
- B. Modify existing product as it has been in use for the last 10 years.
- C. Develop a new in-house product at any cost.
- D. Inform the business to change their processes to suit the current system.

9. Organization B is a leading film entertainment provider. It has observed that many end-users have started using mobile devices to access entertainment content. The chart below shows average response time of the mobile content server. IT team advises that adding more RAM to the server can reduce the response time by 50%. In this case, business analyst C should



- A. Ignore the trend as performance seems to be fluctuating.
- B. Investigate the reason for slow response time.
- C. Procure more RAM for the mobile content server.
- D. Replace the server as IT department has the budget to buy a new server.
10. Organization B is a leading film entertainment provider. It has observed that many end-users have started using mobile devices to access the entertainment content. The chart below shows the average response time of the mobile content server. IT team advises that adding more RAM to the server can reduce the response time by 50%. Even after adding more RAM, the response time is still higher than the target 5 seconds. The situation likely arose as



- A. Root cause analysis conducted was not correct.
- B. RAM does not affect application response time.
- C. IT should have increased network speed.
- D. IT did not keep 2 content servers.

### Answers

Q #	Correct Option	Explanation
1	D	<p>Since navigation is part of usability.</p> <p>BABOK V3.0 - Section 10.36.3 - Elements Paragraph 5 - Usability Prototype: is a product model created to test how the end user interacts with the system without including any of the properties (for example, appearance, configuration).</p>

Q #	Correct Option	Explanation
2	B	<p>It is always better to collect information before deciding. Availability of funds is one factor, not the only factor.</p> <p>BABOK V3.0 - Section 10.49.2 - Description - The assessment may be formal through the submission of a Request for Information (RFI), Request for Quote (RFQ), Request for Tender (RFT), or Request for Proposal (RFP).</p>
3	A	<p>The value of a solution is difficult to determine without defining the performance metrics.</p> <p>BABOK V3.0 - Section 8.2.4 - Elements - .1 Solution Performance versus Desired Value Business analysts examine the measures previously collected in order to assess their ability to help stakeholders understand the solution's value.</p>
4	B	<p>This is an assumption by the BA which can become a risk.</p> <p>BABOK V3 – Glossary - assumption: An influencing factor that is believed to be true but has not been confirmed to be accurate, or that could be true now but may not be in the future.</p>
5	A	<p>Performance metrics of the solution is needed to evaluate solution performance.</p> <p>BABOK V3.0 - Section 8.1.4 - Elements - .1 Define Solution Performance Measures When measuring solution performance, business analysts determine if current measures exist, or if methods for capturing them are in place. Business analysts ensure that any existing performance measures are accurate, relevant and elicit any additional performance measures identified by stakeholders.</p>

<b>Q #</b>	<b>Correct Option</b>	<b>Explanation</b>
6	D	<p>A parallel run will help in increasing stakeholder confidence in the new system.</p> <p>BABOK V3.0 - Section 10.38.3.4 - Treatment - Some risks may be acceptable, but for other risks it may be necessary to take measures to reduce the risk.</p>
7	B	<p>The best course of action is to first understand the root-cause.</p> <p>BABOK V3.0 - Section 8.2.6 - Root Cause Analysis: used to determine the underlying cause of performance variance.</p>
8	A	<p>A sensible option given the situation.</p> <p>BABOK V3.0 - Section 8.5.4 - Retire the Solution: it may be necessary to consider the replacement of a solution or solution component. This may occur because technology has reached the end of its life, services are being insourced or outsourced, or the solution is not fulfilling the goals for which it was created.</p>
9	B	<p>This is essential before taking any decision.</p> <p>BABOK V3.0 - Section 8.3.1 - Purpose - The purpose of Assess Solution Limitations is to determine the factors internal to the solution that restrict the full realization of value.</p>
10	A	<p>Since the quality did not improve after solution.</p> <p>BABOK V3.0 - Section 10.40.4.2 - Limitations - May be difficult with complex problems; the potential exists to lead to a false trail and/or dead-end conclusion.</p>

## 9. Techniques

### 9.1 Acceptance and Evaluation Criteria

Acceptance criteria describe minimal set of requirements to be met for a solution to be worth implementing, also known as "Must Have" requirements. Typically used when evaluating only one possible solution and is expressed as pass or fail. Must be testable. Evaluation criteria define a set of measures to rank multiple options based on their value to stakeholders, thus allowing a range of scores. Value attributes can be performance, applicability, scalability, reliability etc. Evaluation criteria must be able to measure values features provide to stakeholders.

#### Strengths

- ✓ Agile methodologies require requirements to be expressed as testable acceptance criteria.
- ✓ Express contractual obligations.
- ✓ Evaluation criteria help in assessing diverse needs and defining priorities.

#### Limitations

- ✗ Difficult to change for legal or political reasons.
- ✗ Achieving consensus is challenging.

### 9.2 Backlog Management



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Backlogs record, track and prioritize remaining work items. Backlog management is a planned approach to manage remaining work for project. In managed backlogs, items at top have highest business value and priority. Backlog items can be user stories, use cases, defects, CRs, risks etc. Use multi-phased prioritization approach to prioritize backlog items (Initially prioritize epics, then stories).

Describe high priority backlog items in detail with an accurate estimate of size and complexity. Do minimal amount of work on low priority items; just enough to be able to understand the work involved to complete it.

### **Managing changes to backlog**

- Add and re-order backlog for new or changed items.
- Remove completed items or decided to be removed.
- Removed items can be re-added to backlog.

### **Strengths**

- ✓ Prioritization for changing needs.
- ✓ Elaborate and estimate in detail ONLY priority items.
- ✓ Tells what items need to be worked on and what items can wait.

### **Limitations**

- ✗ Large backlogs can be difficult to manage.
- ✗ Needs experience to break down items for accurate estimate.
- ✗ Lack of details can result in lost information over time.

## **9.3 Balanced Score Card (BSC)**

A strategic planning and management tool to measure organizational performance beyond traditional financial measures aligned to organization's vision and strategy.

### **Learning and growth dimension**

Employee training and learning, product and service innovation, and culture.

### **Business process dimension**

How well the enterprise is operating and if its products meet customer needs.

### **Customer dimension**

Customer focus, satisfaction and delivery of value.

### **Financial dimension**

Profitability, revenue growth and added economic value.

### **Strengths**

- ✓ Monitor progress against objectives and adapt strategy as needed.
- ✓ Balanced planning and thinking.
- ✓ Encourages forward thinking and competitiveness.

### **Limitations**

- ✗ Lack of clear strategy can make aligning dimensions difficult.
- ✗ Stakeholders may perceive this as the only tool for strategic planning than one tool among many.
- ✗ Misinterpreted as a replacement for strategic planning, execution and measurement.

## **9.4 Benchmarking and Market Analysis**

Benchmarking compares organizational practices against best-in-class practices from competitors, government, industry associations or standards. Market analysis understands customers' needs, factors influencing purchase decisions, and studies competitors.

### **Benchmarking steps**

- Identify areas to study.
- Identify benchmarking sources.
- Conduct survey / visit enterprises.
- Determine gaps between best and current practices.
- Develop proposals to implement gaps.

### **Market analysis**

- Identify (target) customers and understand their preferences.
- Identify opportunities to increase stakeholder value.
- Identify competitors and investigate their operations.

- Look for trends in market, anticipate growth rate, and estimate potential profit.
- Gather market data and use existing resources such as company records, research studies, books to answer questions at hand.
- Determine trends and draw conclusions.
- Define appropriate business strategies.

### **Strengths**

- ✓ Provides information about new methods, ideas, and tools to improve.
- ✓ Market analysis.
- ✓ Target specific groups and products to answer specific needs.
- ✓ Determine when to enter or exit a market.
- ✓ Expose weaknesses within a certain company or industry.
- ✓ Identify differences in product offerings and services available from competitors.

### **Limitations**

- ✗ Time-consuming and expensive.
- ✗ Need expertise to conduct analyze gathered information.
- ✗ Benchmarking can't produce innovative solutions.
- ✗ Needs proper market segmentation.

## **9.5 Brainstorming**

One or group of stakeholders deliberates on an idea to produce numerous new ideas in a non-judgmental environment, and to derive themes for further analysis.

### **Steps for brainstorming**

#### **Prepare**

- Define area to brainstorm.
- Set time limit. Allocate more time for larger groups.
- Identify facilitator and participants.
- Aim for 6 to 8 participants representing range of backgrounds and experiences.
- Set expectations with participants, and get their buy in into the process. Fundamental principle is No criticism of any idea.
- Establish criteria for evaluating and rating ideas.

### Conduct session

- Share new ideas without discussion, criticism or evaluation.
- Visibly record all ideas.
- Encourage participants to be creative, share exaggerated ideas, and build on others' ideas.
- Don't limit number of ideas.

### Wrap-up

- Combine ideas and eliminate duplicates.
- Evaluate ideas using defined evaluation criteria.
- Create and distribute condensed list of ideas.

### Strengths

- ✓ Excellent way to foster creative thinking.
- ✓ Fun, engaging, and productive.
- ✓ Generate many ideas in a short time.
- ✓ Useful to reduce tension between participants.

### Limitations

- ✗ Depends on participants' creativity and willingness to participate.
- ✗ Politics may limit participation.
- ✗ Participants must agree to avoid debating / criticizing ideas during brainstorming.

## 9.6 Business Capability Analysis

Capabilities are abilities of an enterprise to act on or transform something that helps achieve a business goal or objective. Capabilities describe outcome of performance or transformation, not how it is performed. Capability maps provide a graphical view of capabilities. Each capability is found only once on a capability map, even if possessed by multiple business units. Capabilities impact value by increasing or protecting revenue, reducing or preventing costs, improving service, or achieving compliance. Capabilities themselves don't have risks. Risks are due to lack of performance in capabilities.

Assess capabilities to identify gaps between expected and actual performance expectations. Use capability gaps to determine what enterprise needs to do to accomplish its strategy.

### **Strengths**

- ✓ Create focused and aligned initiatives by providing a shared outcomes, strategy, and performance.
- ✓ Align business initiatives across multiple units of organization.

### **Limitations**

- ✗ Requires organizational collaboration.
- ✗ Requires a broad, cross-functional collaboration in defining capability model and value framework.
- ✗ No set standards for notation of capabilities maps.

## **9.7 Business case**

Business case justifies investments based on estimated value compared to cost, formally or informally. Spend resources on business case proportional to the potential value. Business cases do not provide intricate details.

### **A business case is used to:**

- Define needs.
- Determine desired outcomes.
- Assess constraints, assumptions, and risks.
- Recommend solutions.

The steps to develop a business case are as follows:

- Assess need
- Define desired outcomes
- Assess alternatives
- Assess each alternative with respect to
  - *Scope and Feasibility*
  - *Assumptions, risks, and constraints.*
  - *Financial value.*
- Recommend solution

### **Strengths**

- ✓ Integrated view of facts, issues, and analysis.

- ✓ Financial analysis of costs and benefits.
- ✓ Guides decision making.

### **Limitations**

- ✗ Subject to biases of authors.
- ✗ Often not updated after funding.
- ✗ Assumptions wrt costs and benefits may be invalid.

## **9.8 Business Model Canvas**

9 building blocks describing how an organization delivers value.

As a diagnostic tool, use canvas elements as a lens into current state of business, especially wrt relative amounts of energy, time, and resources currently invested in various areas.

As a planning and monitoring tool, use canvas to understand inter-dependencies and priorities among groups and initiatives. In this capacity, canvas can be used to view where enterprise is investing, where a particular initiative fits, and any related initiatives.

The 9 building blocks of the business model canvas are:

1. Key Partnerships
2. Key Activities
3. Key Resources
4. Value Proposition
5. Customer Relationships
6. Channels
7. Customer Segments
8. Cost Structure, and
9. Revenue Streams

## **Strengths**

- ✓ Easy to understand and simple to use.
- ✓ Understand and optimize business models.
- ✓ Maps initiatives to the strategy of the enterprise.

## **Limitations**

- ✗ Does not account for social and environmental impacts.
- ✗ Does not provide insight for strategy.
- ✗ Does not include strategic purpose of enterprise.

## **9.9 Business Rules Analysis**

Business policies dictate actions of an enterprise and people in it by broadly controlling, influencing, or regulating them. Business rules serve as a criterion for guiding behavior and making decisions in a specific, testable manner.

Business rules analysis identifies, expresses, validates, refines, and organizes business rules. Rules may be explicit or tacit (implicit). Requires a defined glossary. Usually expressed as decision tables or decision trees (flow chart).

Business rules should be:

- Use business terminology for validation.
- Documented independently from enforcement.
- Stated in declarative format at atomic level.
- Maintained in a manner enabling monitoring and adaption as they change.

### **Definitional rules**

Represent operational knowledge of organization. Prescribe how information may be derived, inferred or calculated. For example,  $\text{Gross margin} = \text{Revenue} - \text{Variable cost of production}$ . *These rules can be misapplied but cannot be violated.*

### **Behavioral rules**

Behavioral rules guide actions of stakeholders which may be violated. Take precautions in the solutions to prevent violations. Example, "No customer should be provided a credit period of more than 30 days." *These rules can be violated.*

### **Strengths**

- ✓ An enterprise-wide rules engine can assist in quick implementation of rules changes.
- ✓ Centralized rules repository enable reuse.
- ✓ Allows organizations to make changes to policies without changing processes.

### **Limitations**

- ✗ When combined, rules can be lengthy, inconsistent or produce unanticipated results.
- ✗ Poorly defined vocabulary can result in inaccurate or contradictory business rules.

## **9.10 Collaborative Games**

Uses game playing techniques to collaborate in developing common understanding of a problem or a solution. Involves strong visual or tactile (activities) elements such as moving sticky notes, writing on whiteboards, or drawing pictures. A neutral facilitator guides the game flow.

### **Steps are:**

1. Define game purpose.
2. Play game.
  - a. Opening step - Rules of the game and start generating ideas.
  - b. Exploration step - Participants engage with one another and look for connections between their ideas, test those ideas and experiment with new ideas.
  - c. Closing step – Assess ideas which are likely to be MOST productive.

**Examples:**

<b>Game</b>	<b>Description</b>	<b>Objective</b>
Product box	<p>Construct a product box to be sold in a retail store.</p> 	Identify features those drive interest in market place.
Affinity map	Write features on sticky notes, put them on a wall. Move noted to other features that are similar.	Identify related or similar features or themes.
Fishbowl	Divide participants in 2 groups. One group speaks about a topic. Other group listens intently and documents its observations.	Identify hidden assumptions or perspectives.

**Strengths**

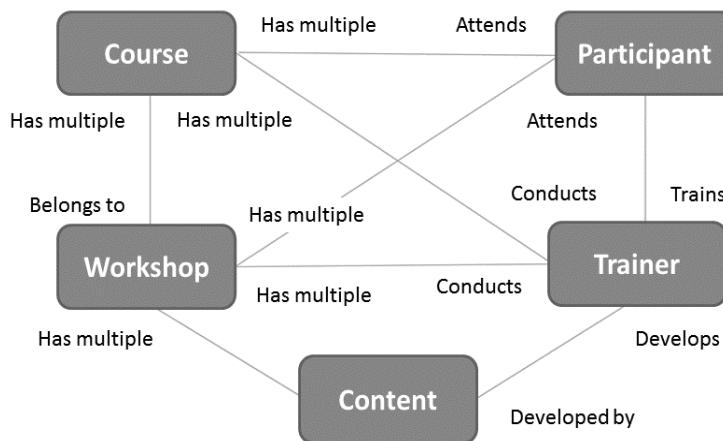
- ✓ Identifies hidden assumptions or differences of opinions.
- ✓ Encourages creative thinking.
- ✓ Participants play a more active role.
- ✓ Exposes needs that aren't being met.

**Limitations**

- ✗ Can be perceived as silly and unproductive.
- ✗ Uncomfortable for reserved participants.
- ✗ Time-consuming.
- ✗ Can lead to a false confidence in conclusions reached.

## 9.11 Concept Modeling

Organizes business vocabulary, usually starting with glossary. The concept model for Adaptive's BA learning Platform called SuXeed is shown below:



Glossary is used to ensure common understanding of words, phrases, terms used, amongst stakeholders, not to understand the relationship between concepts. In a glossary, the key terms are only defined (i.e., Need: A problem or opportunity to be addressed).

### Concept models are effective in:

- Organizing, managing and communicating core knowledge,
- Capture large numbers of business rules,
- Not technical like data models,
- Regulatory or compliance needs.

Concept models are different from data models. Concept models support expression of natural language statements. Concept models are not intended to unify, codify and simplify data.

Noun concepts – Entities or objects of interest for e.g. "Customer", "Order" etc.

Verb concepts – Actions, such as "Create", "Update".

This would form sentence like "Create Customer", "Update Order".

### Strengths

- ✓ Makes precise communication.
- ✓ Independent of data design biases.
- ✓ Helps in reducing ambiguity.

### Limitations

- ✗ Requires abstract thinking skill.
- ✗ Need tool support for strict implementation.

## 9.12 Data Dictionary

Standard definitions of primitive data elements, their meanings, allowable values, how those elements combine into composite data elements. Used to manage data within a solution's context, often used along with ER diagrams.

### Primitive data elements

Name	A unique name for data element.	Example: Prefix, First Name, Middle Name, Last Name, Suffix
Aliases	Alternate names for data element.	
Values	List of acceptable values.	Prefix: Mr., Ms., Dr., Mrs.
Meanings	If abbreviated, include explanation.	
Description	Definition of data element in context of solution.	

### Composite data elements

Composite data is assembled from primitive data elements, e.g. An intelligent ID to describe items.

Sequence	Show primitive data elements in specific order.	Name: First Name + Middle Name + Last Name
Repetition	Shows that one or more primitive data elements occur multiple times in composite element.	
Optional element	May or may not occur in a particular instance of data element.	

**Strengths**

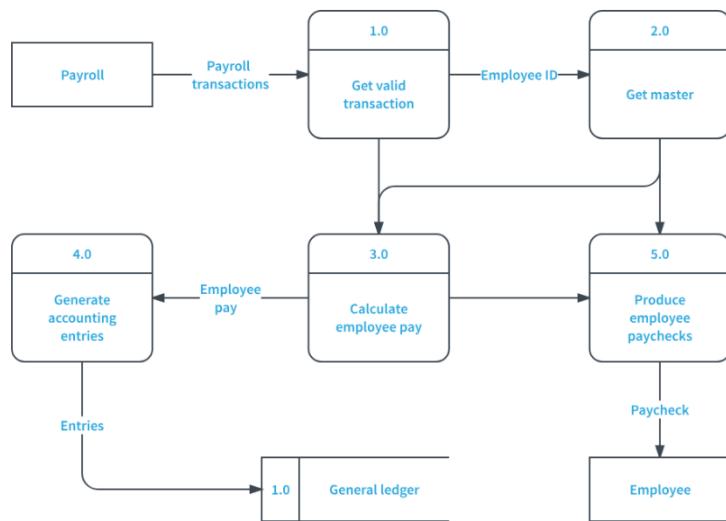
- ✓ Ensures stakeholders agreement on format and content of relevant information.
- ✓ Ensures consistent usage of data elements.

**Limitations**

- ✗ Becomes obsolete unless maintained.
- ✗ Needs maintenance to ensure quick and easy retrieval.

## 9.13 Data Flow Diagrams (DFDs)

Show transformation of data from (data source such as external sources, activities and destination). Data used in DFDs should be described in data dictionary. Highest level diagram (Level 0) is context diagram representing the entire system.



Context Diagram Gane-Sarson Notation

Level 1 DFDs show processes related to system with respective input data, output transformed data and data stores.

Further levels (level 2 and 3) break down major processes from level 1 diagram.

Logical data flow diagrams represent future or essential state. Physical data flow diagrams model all of data stores, printers, forms, devices and other manifestations of data of current or future state.

Externals (Entity) (Source, or Sink or both) - Person, organization, system, or device providing or receiving data. These are outside of the system under analysis. Each external must have at least one data flow going to or coming from it. Represented by using a noun inside a rectangle.

### **Data store**

Stores data for future use. Must have at least one data flow going to or coming from it. Represented as 2 parallel lines or as an open-ended rectangle with a label.

### **Process**

Transforms data into an output. Names contain a verb and a noun. Must have at least one data flow going to it and one data flow coming from it. Represented as a circle or rectangle with rounded corners.

### **Data flow**

Movement of data between an external, a process and a data store. Represented as a line with an arrow displayed between processes. Named using nouns.

### **Strengths**

- ✓ Depict transaction-based systems and boundaries of a system.
- ✓ To discover processes and data.
- ✓ Excellent way to define scope and interfaces.
- ✓ Helps in effort estimation.
- ✓ Easy to understand.
- ✓ Helps to identify duplicate or missing data elements.

### **Limitations**

- ✗ Can become complex for large-scale systems.
- ✗ Different DFD notations exist.
- ✗ Can't show sequence of activities, logic or stakeholders.

## 9.14 Data Mining

Finds useful patterns and insights from large amounts of data, usually resulting in mathematical models. Utilized in either supervised (user poses a question) or unsupervised (pure pattern discovery) investigations.

**The 3 primary data mining techniques are:**

**Descriptive:** Clustering of data makes it easier to see patterns in a set of data, such as similarities between customers.

**Diagnostic:** Show why a pattern exists, such as characteristics of an organization's MOST profitable customers.

**Predictive:** Show how likely something is to be true in future, such as predicting probability that a claim is fraudulent.

### Steps for data mining

1. Elicit requirements
2. Prepare data: Analytical dataset
3. Analyze data
4. Use modeling techniques
5. Deployment

### Strengths

- ✓ Reveals hidden patterns and insights.
- ✓ Increased accuracy of data and decision.
- ✓ Reduced human bias.

### Limitations

- ✗ Requires specialist knowledge.
- ✗ Takes considerable effort.
- ✗ Erroneous correlations are possible.
- ✗ May lead to accidental misuse.
- ✗ Resistance to use of advanced math due to lack of transparency.

## 9.15 Data Modelling

Data models describe entities, classes or data objects relevant to a domain, their attributes and relationships among them.

### Conceptual data model

Data models are independent of any solution and represents how business perceives its information.

### Logical data model

Normalizes data for data integrity, used to design a solution.

### Physical data model

Describe physical data organization in a database. Addresses concerns like performance, concurrency and security. Logical and physical data models include elements specific to solutions, developed by Implementation SMEs.

### Strengths

- ✓ Helps in consistent vocabulary.
- ✓ Ensures logical design of persistent data correctly represents business needs.
- ✓ Consistent approach to analyze and document data and its relationships.
- ✓ Can be at different levels of detail.
- ✓ Can expose missing requirements.

### Limitations

- ✗ Requires background in software.
- ✗ Often beyond knowledge of individual stakeholders.

## 9.16 Decision Analysis

Supports decision-making in complex, difficult, or uncertain situations. Examines and models possible consequences of different decisions. Understand:

- Values, goals and objectives relevant to decision problem.

- Nature of decision to be made.
- Areas of uncertainty that affect decision.
- Consequences of each possible decision

The 2 types of decision matrices are:

**Simple decision matrix:**

Each alternate is checked against each criterion. Tally number of criteria matched for each alternate. Choose one with maximum tally.

**Weighted decision matrix:**

Options are assessed against weighted criterions. Weights are assigned based on their importance. The higher weighting, more important criterion. Formula is Sum of (Weight i \* Rating i)

**Decision trees**

A decision support tool that uses a tree-like model of decisions and their possible consequences

**Strengths**

- ✓ Determines expected value of alternative scenarios.
- ✓ Assesses importance placed on different alternatives.
- ✓ Assesses options based on objective criteria than emotions.
- ✓ Compare financial and non-financial outcomes.

**Limitations**

- ✗ Requires knowledge of probability.
- ✗ Information may not be available on time to make decision.
- ✗ Tendency to treat results of decision analysis as more certain than they actually are.

## 9.17 Decision Modeling

Show how repeatable business decisions are made using data and knowledge.

### Decision tables

Tabular representation of a set of rules. Each row / column is a rule and each column / row represent one of the conditions of that rule.

### Decision trees

Each path on a decision tree leaf node is a single rule. Each level in the tree represents a specific data element; downstream branches represent different conditions that must be true to continue down that branch.

### Decision requirements diagrams

Shows information, knowledge and decision making involved in complex business decision.

### Strengths

- ✓ Easy to share and understand.
- ✓ Facilitate shared understanding.
- ✓ Support impact analysis.
- ✓ Multiple perspectives can be shared and combined, especially when a diagram is used.
- ✓ Decision tables help in managing large numbers of parameters.
- ✓ Helps with reuse.
- ✓ Helps in rules-based automation, data mining, predictive analytics and BI projects.

### Limitations

- ✗ Unnecessary for simple decisions coupled to process.
- ✗ Practices may differ from model.
- ✗ Difficult to obtain agreement on cross-functional rules.
- ✗ Needs clearly defined business terminology to avoid data quality issues for process automation

## 9.18 Document Analysis

Elicit business analysis information, by examining materials describing business environment or organizational assets. Document analysis helps in understanding context of a business need, or understanding how existing solutions are implemented based on business analysis information being explored, purpose, scope and topics to be researched are determined. Data mining analyzes data to group it into categories, determine patterns and opportunities for change.

Background research comprises of reviewing materials like marketing studies, industry standards, guidelines etc. Document analysis about an existing solution may comprise of reviewing business rules, technical documentation, previous requirements, problem reports etc. to determine how existing solution works and reason for implementing it way it is.

### Steps for conducting document analysis

#### 1. Prepare

Consider content relevance, credibility, and ease with which content can be conveyed and understood.

#### 2. Perform document review and analysis

- Conduct detailed review of each document's content and record relevant notes.
- Identify conflicting or duplicate notes.
- Note gaps in knowledge.

#### 3. Record findings

- Check whether content and level of detail is appropriate.
- Create visual aids to improve understanding.

### Strengths

- ✓ Analysis without creating new content.
- ✓ Useful when SMEs are not available.
- ✓ Determine what is current and what has changed.
- ✓ Results can be validated against results of other elicitation techniques. (A common theme)
- ✓ Findings can be presented in visual formats.

## Limitations

- ✗ Limited to "AS-IS" perspective.
- ✗ May not be up-to-date or valid.
- ✗ Authors may not be available for clarification.
- ✗ Time-consuming.

## 9.19 Estimation

Estimation techniques are used to understand possible range of costs and efforts for a change. Estimation helps to get a reasonable assessment of likely efforts and costs. Represent estimation as a range of values, with minimum and maximum.

Type	Definition
Expert opinion / Rough order of magnitude (RoM) / Ball park	A high-level estimate with a very wide confidence interval. Typically based on history or expert judgment with limited information. <i>[Early phase of the project.]</i>
Delphi estimation	Uses a combination of expert judgment and history. Includes individual estimates, sharing estimates with experts and having several rounds until consensus is reached.
Top-down estimation	Estimate efforts for components using hierarchical breakdown. Used when the budget is fixed.
Bottom-up / WBS estimation	Uses WBS to estimate deliverables, activities, tasks and estimates from stakeholders and rolls them up to get a total. It is easier to estimate smaller items than larger items. Bottom-up estimating produces MOST accurate and defensible estimates.
PERT (Program Evaluation Review Technique) / Scenario analysis	Each component of estimate has 3 values: (M) Most likely estimate (O) Optimistic or best-case scenario (P) Pessimistic or worst-case scenario

Parametric estimation	Uses a calibrated parametric model of element attributes.
Rolling wave	Continual refinement of estimates. Estimate activities in current iteration and extrapolate it for entire scope of work. After each iteration, re-estimate future activities.

### Sources of information

- Analogous (similar) situations - similar project.
- Organization history - Prior experiences with similar work.
- Expert judgment - Relying on expertise of experts.

### Strengths

- ✓ Better decisions based on an improved understanding costs and time.
- ✓ Teams provide a better estimate than a single individual.

### Limitations

- ✗ Stakeholders treat estimates as commitments.
- ✗ Using a single estimation method can set undue expectations.
- ✗ Accuracy of estimates depends on knowledge level about elements.
- ✗ Often altered to match desires of influential stakeholders.

## 9.20 Financial Analysis

Explore financial aspects (benefits and costs) of an investment.

Term	Definition
Cost of Investment	Expected cost of building or acquiring the solution.
Cost of change	Cost of investment+ costs of transitioning (includes training

	cost).
Total cost of ownership (TCO)	Cost of change + (Usage cost + Support cost) for a given period.
Opportunity cost	Value of next best alternative which is not pursued.
Sunk cost	An investment that can't be recovered.
Total benefit	Sum total of all benefits for a given period. This may be additional revenue or reduction in cost.
Net benefit	Expected total benefits - Expected total costs.
Return on investment (RoI)	<i>Return on Investment = (Total Benefits – Cost of Investment) *100 / Cost of Investment</i>
Payback period	Time period required to generate enough benefits to recover cost of change.

### Strengths

- ✓ Objective (quantitative) comparison of investments.
- ✓ Assumptions and estimates are clearly stated.
- ✓ Reduces uncertainty by identifying and analyzing influencing factors.

### Limitations

- \* Costs and benefits are difficult to quantify.

## 9.21 Focus Groups

Elicit ideas, impressions, preferences, and needs and attitudes from *\*pre-qualified individuals\** about a specific product, service or opportunity in an interactive group environment. Guided by a moderator. Typically, 1 to 2 hours with 6-12 attendees.

Product life cycle stage	Utility of focus group
Under development	Ideas are analyzed in relationship to stated requirements. This may result in updating existing requirements or uncovering new requirements.
To be launched	How to position product in market.
In production	Revisions to next release of requirements. Assess customer satisfaction with a product or service.

Observers may record or monitor focus group but should not participate. Analyze and report themes from focus group discussions. Can be in one location or through online sessions.

Focus groups are similar to brainstorming sessions. Differences are:

- Focus groups are typically more structured, and mandate a moderator.
- Brainstorming session's goal is to actively seek broad, creative, even exaggerated ideas.

### **Steps for focus group**

#### **Plan**

1. Have clear and specific objectives.
2. Define plan – Time, location, logistics, participants, budget, outcomes etc.
3. Recruit participants based on focus group objectives.
4. Invite additional individuals to allow for non-attendance.
5. Create discussion guide - Provide a prepared script for moderator with specific questions and topics to be discussed. Include reminders to welcome participants, explain goals/objectives of session, how to conduct session and how to use feedback.

Assign moderator, and recorder. BA can fill role of either moderator or recorder.

#### **Conduct**

Follow a pre-planned script of specific issues, and ensure focus group objectives are met. Discussion should appear free-flowing and relatively unstructured to participants.

### **Close**

Analyze participants' agreements, and disagreements, looks for trends and produces a summary report.

### **Strengths**

- ✓ Saves time, and cost compared to conducting multiple individual interviews.
- ✓ Learning people's attitudes, experiences and desires.
- ✓ Encourages active participation and discussion.
- ✓ Online method works for stakeholders in multiple locations.

### **Limitations**

- ✗ Unwillingness to discuss sensitive or personal topics.
- ✗ What people say is inconsistent with how they actually behave.
- ✗ Homogeneous groups do not represent complete set of requirements.
- ✗ Need skilled moderator.
- ✗ Difficult to schedule.
- ✗ Can't read body language in online focus groups.

## **9.22 Functional Decomposition**

Functional decomposition breaks down any large aspect (processes, functional areas, deliverables, scope, or problems) into smaller aspects, as independent as possible, so that work can be assigned to different groups. This reduces complexity of analysis.

Define what to decompose, how to decompose, and how deeply to decompose. Decomposition can be applied to diverse subjects like:



Level of functional decomposition defines where, why and when to stop decomposing. Decomposition can be represented by a combination of plain texts, hierarchical diagram, programming languages (*CRUD – Create, Retrieve, Update, and Delete operations*), visual diagrams etc. Work breakdown structure (WBS) decomposes project scope in phases, work packages and deliverables.

### Strengths

- ✓ Helps to manage complex problems by breaking them into parts.
- ✓ Provides shared understanding of complex matters.
- ✓ Helps in estimation.

### Limitations

- ✗ No way to be certain that all components have been captured.
- ✗ Missing or incorrect elements can lead to re-work.
- ✗ Not understanding relationships between pieces creates inappropriate structure.
- ✗ Need deep subject knowledge and extensive collaboration with stakeholders.

## 9.23 Glossary



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Comprises of key terms relevant to a domain. Contains definitions and synonyms. Needs to be organized and be accessible to all stakeholders. Include terms when:

1. Unique to a domain or has multiple definitions.
2. Commonly used meaning is different from those which is used within domain or have chance for misunderstanding.

Define glossaries in early stages of project to enhance understanding and transfer knowledge.

Identify person responsible for maintaining the glossary. *\*Limit glossary editing to specific stakeholders.\**

### Strengths

- ✓ Promotes communication and common understanding of business domain.
- ✓ Encourages consistency as single reference source for business terms.
- ✓ Simplifies writing and maintenance of business analysis information.

### Limitations

- ✗ Requires dedicated persons to maintain.
- ✗ Challenging to get stakeholder agreement on a single definition for a term.

## 9.24 Interface Analysis

An interface is a connection between 2 components or solutions. Identify interfaces and interactions between solutions and/or solution components. Interface types are:

1. User interfaces - Users interacting with system plus reports.
2. Data interfaces between systems.
3. Application programming interfaces (APIs).
4. Hardware devices.
5. Business processes.
6. External partners.

### **Interface analysis defines:**

- Why the interface is needed? Who will use interface?
- What information will be exchanged? When information will be exchanged?
- How frequently? Where information exchange will occur?
- How interface should be implemented?

### **Prepare**

Utilize techniques like document analysis, observation, scope modeling (Use case model), interviews etc. to understand which interfaces need to be identified.

### **Identify interfaces**

Identify interfaces which are needed in future for each stakeholder or system that interacts with the system. Describe function of interface, assess usage, evaluate suitable type and elicit details about interface.

### **Define interfaces**

Include name, exchange method between entities, message format, exchange frequency etc.

### **Strengths**

- ✓ Helps in identifying stakeholders for elicitation.
- ✓ Early identification leads to increased functional coverage.
- ✓ Interfaces specifications provide a structured means of allocating requirements, business rules and constraints to the solution.

- ✓ Avoids over analysis of fine details owing to its broad application.

### **Limitations**

- ✗ Does not provide insight into internal components / other aspects of solution.

## **9.25 Interviews**

Most common form of elicitation technique where interviewers ask questions to stakeholders. Effective interviewers control discussions, understand needs from ALL stakeholders, probe deeper when needed and ensure completeness of answers. Interview success depends on:

### **Interviewer skills**

- Domain understanding,
- Documentation skills,
- Experience and willingness.

### **Interviewee**

- Readiness to provide relevant information,
- Clarity about interview goal,
- Rapport between interviewer and interviewee.

### **Define interview goal:**

Consider business need and goals for each interview.

Identify potential interviewees: Along with PM, sponsors and other stakeholders, based on interview goal. Communicate interview goals clearly to interviewees.

Design interview questions: Based on interview goals, such as, data collections, research stakeholder's views of change, or proposed solution, develops a proposed solution, or build rapport with interviewees.

Use open-ended questions to encourage description which encourages thinking. Use closed questions to elicit a single response such as yes, no, or a specific number. Closed questions clarify or confirm a previous answer.

Organize interview questions based on priority and significance. Order questions in a flow such as general to specific, start to finish, and summary to detailed, interviewee's level of knowledge and subject of interview.

### **Organize logistics:**

Decide location and mode of communication (in-person, phone, or online conferencing), recording needs etc. Send questions in advance ONLY when interviewee needs to collect information to prepare for interview.

### **Interview flow**

#### **Opening:**

- Describe purpose,
- Confirm interviewees' roles,
- Address any initial concerns raised by interviewees,
- Explain how information from interview will be recorded, and shared with various stakeholders.
- 

#### **During interview**

- Maintain focus on interview goals and predefined questions,
- Adapt based on information provided and non-verbal clues,
- Provide required information,
- Manage concerns raised by addressing them during interview or documenting them for follow-up,
- Practice active listening,
- Record discussions.

#### **Closing interview includes:**

- Ensure no areas are overlooked.
- Provide contact information to follow up with additional information.
- Summarize session.

- Considers multiple sessions if needed.
- Thank interviewees for their time.

### **Interview follow-up**

Organize interview information and confirm results quickly.

### **Strengths**

- ✓ Encourages participation.
- ✓ Builds rapport with stakeholders.
- ✓ Simple and direct technique.
- ✓ Allows observations of non-verbal behavior.
- ✓ Allows follow-up and probing questions.
- ✓ Interviewees express opinions which they may not do in public.

### **Limitations**

- ✗ Needs significant time.
- ✗ Needs commitment and involvement of participants.
- ✗ Needs trained facilitator.
- ✗ Subject to interviewer's interpretation.
- ✗ Unintentionally leading the interviewee.

## **9.26 Item Tracking**

Captures and assigns responsibility for issues and stakeholder concerns. Items can refer to actions, assumptions, constraints, dependencies, defects, enhancements and issues.

### **Record items**

Record items, manually or by a system, with following attributes:

- Item ID: Unique ID
- Summary: Brief description of item
- Category: Grouping of items with similar properties
- Type: Type of item, Date identified, Identified by
- Impact: Possible consequences. Assess wrt time, cost, scope, or quality

- Priority, Resolution date, Owner
- Resolver: Stakeholder assigned to resolve item
- Agreed strategy: E.g. Accept, pursue, ignore, mitigate and avoid
- Status: E.g. Open, assigned, resolved and cancelled
- Resolution updates: Running log of item's resolution
- Escalation matrix

*Each item MUST be tracked to its closure or resolution.* Report on item tracking performance.

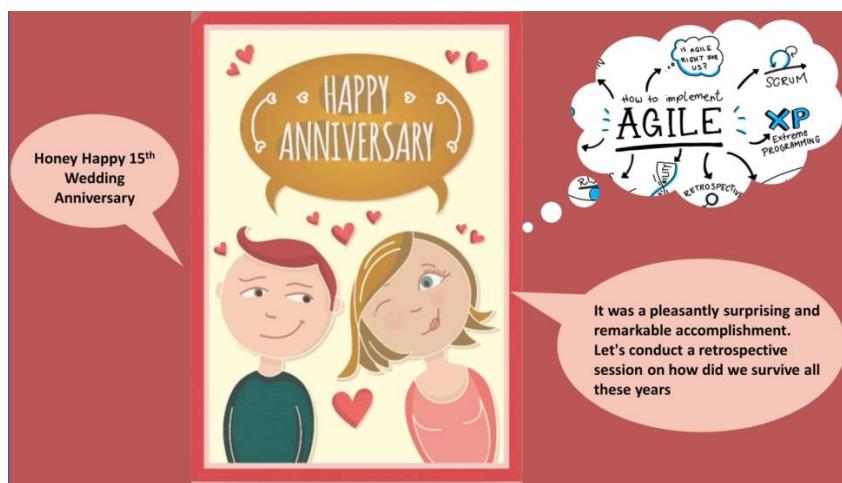
### Strengths

- ✓ Stakeholder concerns tracked and resolved.
- ✓ Allows ranking importance of outstanding items.

### Limitations

- ✗ Can be expensive to capture and track items.
- ✗ Consumes productive time.
- ✗ Stakeholders could become mired in details and statistics.

## 9.27 Lessons Learned (Retrospective)



Discuss and document successes, failures and improvement recommendations for future phases or projects. *Can include any format or venue acceptable to key stakeholders. Can be formal facilitated meetings or informal meetings.*

**Review the following:**

- Business analysis activities or deliverables,
- Final solution, service, or product,
- Automation introduced or eliminated,
- Impact to organizational processes,
- Performance expectations and results,
- Root causes impacting performance results.

**Strengths**

- ✓ Identifies areas of improvement.
- ✓ Assists in building team morale.
- ✓ Reinforces positive experiences.
- ✓ Reduces risks for future projects.
- ✓ Recognizes strengths or shortcomings.

**Limitations**

- ✗ Can become blame game.
- ✗ Lack of willingness to discuss and document problems.
- ✗ Facilitation required to ensure discussions remain focused on solutions and improvement opportunities.

## **9.28 Metrics and KPIs**

Measure performance of solutions, solution components and other matters of interest to stakeholders. An indicator shows degree of progress toward achieving a goal, objective, output, or activity. KPIs are ones those measure progress towards a strategic goal or objective. A metric is a quantifiable level of an indicator.

**Example HR process KPI**

% of resource requests fulfilled within SLA.

**Metrics:**

Average # of applications received per advertisement.

Ratio of short-listed candidates from applications received.

Ratio of interviews scheduled vs. short listed candidates.

**Reporting** is process of informing stakeholders of metrics or indicators in specified formats and at specified intervals. **Monitoring** is a continuous process of data collection to determine how well a solution is performing compared to expected results. **Evaluation** is systematic and objective assessment of a solution to determine its status and effectiveness in meeting objectives over time and to identify ways to improve solution to better meet objectives.

**Metrics:** Can be a specific point, a threshold, or a range. Range can be useful if indicator is new.

**Reporting:** Reports compare baseline, current metrics and target metrics. Trends are more useful than absolute metrics. Visual presentations are more effective than tables.

### **Strengths**

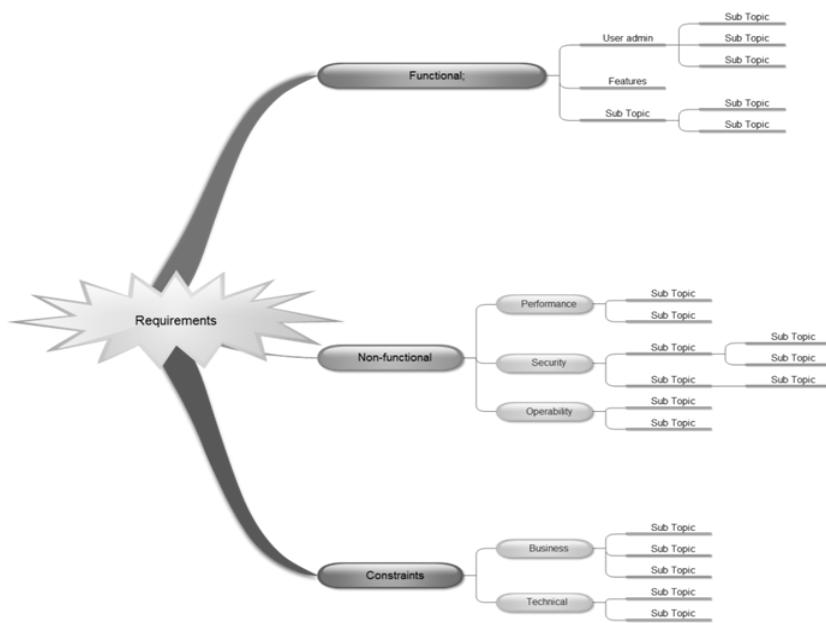
- ✓ Understand extent to which a solution meets an objective.
- ✓ Facilitates organizational alignment.

### **Limitations**

- ✗ Can be expensive, bureaucratic, and useless.
- ✗ Can distract from key responsibilities.
- ✗ Can lead to sub-optimal overall performance.

## **9.29 Mind Mapping**

Articulates and captures ideas in a non-linear (tree) structure. Ideas are grouped as topics, sub-topics, further sub-sub-topics. Mind maps use words, images, color, and connections to structure thoughts, ideas, and information.



## Strengths

- ✓ Collaboration and communication tool.
- ✓ Structures complex thoughts, ideas, and information.
- ✓ Facilitate understanding and decision making.
- ✓ Enable creative problem solving.

## Limitations

- ✗ Can be misused as a brainstorming tool.
- ✗ Can become complex with details.

## 9.30 Non-functional Requirements (NFR) Analysis



Examines requirements for a solution that define how well functional requirements must perform. Also known as quality attributes or quality of service requirements. Expressed in textual formats as declarative statements.

### NFR categories

Availability	Extent to which solution is operable and accessible when required.
Compatibility	Ability to co-exist and interact with other applications.
Functionality	Extent to which user needs are met by solution functions.
Maintainability	Ability to change one component without affecting others and without causing unexpected failures, ability to re-use components and testability.
Performance efficiency	Time taken to perform activities and resource utilization levels.
Portability	How easy it is to transfer a solution or component from one environment to another.

Reliability	Measure of application being available when needed. Ability to recover from errors, uptime, or failures in interfaces.
Scalability	Ability to handle increased amounts of work.
Security	Ability to ensure confidentiality and integrity of information, to verify when actions were taken and by whom and to authenticate users.
Usability	How easy is it to learn and use the solution.
Certification	Meet certain standards or industry convention.
Compliance	Legal, financial or regulatory constraints.
Localization	Local languages, laws, currencies, cultures, spellings.
Service level agreements	Organization constraints which are agreed upon by provider and user of solution.
Extensibility	Ability to incorporate new functionalities.

NFRs must be quantified to extent possible to be verifiable.

### Example NFRs

- **90%** of users shall be able to use all functionalities of system with 1 day of training.
- System shall provide **90%** of responses in less than **2** seconds.

### Strengths

- ✓ Provides measurable expressions of how well functional requirements must perform.
- ✓ States constraints applicable to functional requirements.

### Limitations

- ✗ Difficult to articulate and define than functional requirements.
- ✗ Getting agreement on NFRs can be difficult.
- ✗ Stringent NFRs significantly increase cost and effort.

## 9.31 Observations

Elicit information by observing activities and their contexts.

**Active/Noticeable observation**– Ask questions during process. Interrupts work flow but helps in gaining a quick understanding.

**Passive/Unnoticeable observation** - Ask questions at end. Do not interrupt work.

Possible variations of observations are:

- Ask actor to perform specific task.
- Do actual work to get a hands-on feel - Limit this to activities appropriate for a non-expert to perform and whose results would not negatively impact business.
- Becoming temporary apprentice.
- Recording video and viewing it with observed person to get further details.

### Steps for observation

- Have a clear and specific objective.

### Prepare for observation

- Determine activities to observe.
- Identify sample users (e.g. Experts and novices or just experts) to observe.
- Prepare observation questions.

### Conduct observation session

- Explain reason for observation. Assure participants that the sole purpose is to gather requirements and only to study the processes.
- Inform users to stop observation process if it interferes with their work.
- Attentively watch activity.
- Record what you see, time taken, quality of work, process anomalies etc.
- Ask questions while work is being performed or after observation session.

### Confirm observation results

- Review notes and recorded data.
- Follow up to obtain further clarification.
- Share notes and data with participants to ease any concerns that they may have.

- Validated notes and data are collated with other related observations.
- Findings are summarized, analyzed and opportunities for improvement are communicated with stakeholders.

### **Strengths**

- ✓ Documenting details about current processes.
- ✓ When project's objective is to enhance or change a current process.
- ✓ When stakeholders are unable to express requirements well.
- ✓ Provides realistic and practical insight into business processes.
- ✓ Productivity can be directly viewed and compared with standards or performance metrics.
- ✓ Identify non-documented informal tasks or work-around.
- ✓ Recommendations for improvement are based on evidence.

### **Limitations**

- ✗ Possible for existing processes only.
- ✗ Time-consuming and can be disruptive.
- ✗ Participants may alter work practices when observed.
- ✗ Can't evaluate knowledge-based activities.

## **9.32 Organizational Model**

Organizational model describes roles, responsibilities, and reporting structures in an organization. It is a visual representation of organizational units defining:

- Members in group,
- Who reports to whom,
- Functional role for each person, and
- Interfaces between unit and other units or stakeholders.

### **3 types of Organizational models are:**

**Functions:** Groups staff together based on shared skills or areas of expertise. Helps in standardization of work or processes.

**Markets:** To serve particular customer segments, geographical areas, projects or processes rather than group employees based on common skills or expertise. Enables organization to be better oriented with needs of its customers, but may develop inconsistencies in work performance, and duplicate work in multiple divisions

**Matrix:** Separate managers for each functional area, and for each product, service, or customer. Staff report to:

- A line manager, who is responsible for performance of a type of work, and for identifying opportunities for efficiency in work, and
- A market (product/service/project/etc.) Manager, who is responsible for managing product, service, etc. Across multiple functional areas.

Organizational unit comprises of a number of defined roles and has interfaces with other organizational units. Organizational chart is main diagram for organizational modeling.

### **Strengths**

- ✓ Common in most organizations.
- ✓ Enables future projects to know participants involved and their roles.
- ✓ Helps to identify influencers in organization.

### **Limitations**

- ✗ Can be out of date.
- ✗ Does not tell about real influencers in organization.

## 9.33 Prioritization



Provides a framework for stakeholder decisions to understand relative importance of requirements. Importance may be based on value, risk, difficulty of implementation etc.

Grouping	Classify into high, medium, or low priority. <i>MoSCoW (Must-Should-Could-Won't).</i>
Ranking	Rank orders from most to least important. Rank is unique.
Time boxing/ Budgeting	Based on fixed resources, time (duration) or budget (a fixed amount of money). Used when solution approach has been determined.
Negotiation	Establishing a consensus among stakeholders wrt requirements' priority.

### Strengths

- ✓ Helps in consensus building and trade-offs.
- ✓ Ensures maximum solution value.
- ✓ Assists in meeting initiative timelines.

## Limitations

- ✗ Stakeholders often avoid difficult choices and do not make trade-offs.
- ✗ Solution team may try to influence prioritization by over estimating complexity of certain requirements.
- ✗ Lack of defined metrics may make it subjective.

## 9.34 Process Analysis

Analyzes processes for their effectiveness, efficiency, and identifies improvement opportunities. Common process improvements include:

- Reduce execution time,
- Improve co-ordination between roles and organizational units to remove errors, reduction or elimination of bottlenecks,
- Automate routine steps, and decision making.

### When analyzing a process, look for:

- Alignment to organizational goals and strategy.
- Process needs to be efficient, effective, repeated, measured, controlled, used and transparent.
- How requirements for a solution cover future state process.
- Identify gaps and areas to improve.
- Identify value and non-value-added activities.

### Identify root cause

Identify root cause of gaps and improvement areas ensure that solution addresses right gaps.

### Common methods

**SIPOC** (Suppliers, Inputs, Process, Outputs and Customers) originated in Six Sigma.

**Value Stream Mapping (VSM):** Originated in Lean methodologies. Diagram and record wait times and processing times for every processing step.

## Strengths

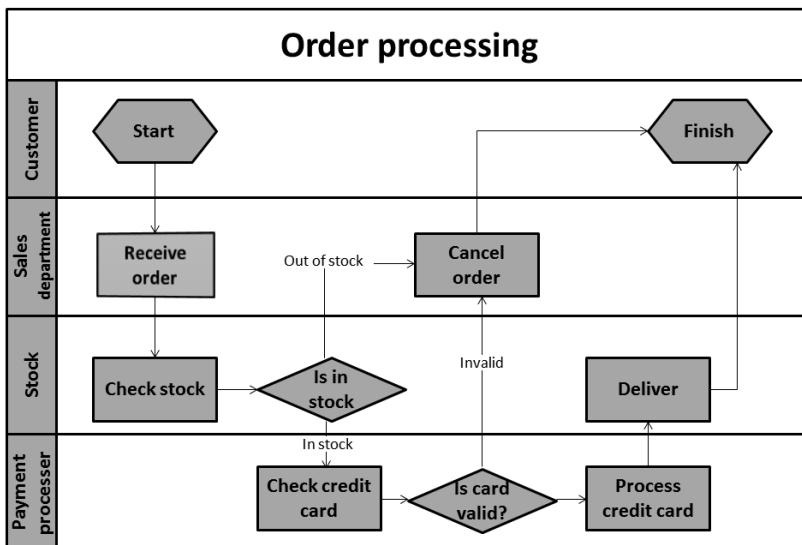
- ✓ Ensures solution addresses right issues.
- ✓ Minimizes waste.
- ✓ Flexibilities wrt techniques and methodologies.

## Limitations

- ✗ Time-consuming.
- ✗ Multiple approaches.
- ✗ In-effective in knowledge or decision-intensive processes.

## 9.35 Process Modeling

Sequential flow of activities. A system process model defines sequential flow of control among programs or units within a computer system. A program process flow shows sequential execution of program statements within a software program.



## Process models:

- Describes current (as is), or is desired (to be) process,
- Provides a visual to accompany a text description and
- Provides a basis for process analysis.

### Types of process models and notations

1. Flowcharts and Value Stream Mapping (VSM): Used in business domain.
2. Data Flow diagrams and Unified Modeling Language™ (UML®) diagrams: Used in IT domain.
3. Business Process Model Notation (BPMN): Used across both business and IT domains; de-facto industry standard.
4. SIPOC and Value Stream Analysis.

**Flowchart:** A flowchart can be simple, displaying just sequence of activities, or it can be more comprehensive using swim-lanes.

### Strengths

- ✓ Easy to understand.
- ✓ Can be at multiple levels.
- ✓ Can show large number of scenarios and parallel branches.
- ✓ Identifies overlooked stakeholder groups.
- ✓ Identify potential improvements by highlighting "Pain points".
- ✓ Provide documentation for compliance.
- ✓ Can be used for training and coordination of activities.
- ✓ Can be used as a baseline for continuous improvement.
- ✓ Provides clarity to process owners and participants on responsibilities, sequence and hand-overs.

### Limitations

- ✗ Formal process models perceived as document-heavy approach.
- ✗ Can become extremely complex and unwieldy.
- ✗ Single individual will not be able to understand and 'sign off' a complex process.
- ✗ In highly dynamic environment, can become obsolete quickly.
- ✗ Stakeholders often forget to update models.

## 9.36 Prototyping

Provides an early model of final result, widely used for product design. Details UI requirements and integrates them with other requirements such as use cases, scenarios, data, and business

rules. Stakeholders often find prototyping to be a concrete means of identifying, describing and validating their interface needs. Prototypes can discover desired process flow and business rules.

## **2 common approaches to prototyping are:**

Throw-away prototype	Seeks to quickly uncover and clarify interface requirements using simple tools, sometimes just paper and pencil. Focus on functionalities which are not easily elicited by other techniques, have conflicting viewpoints, or difficult to understand.
Evolutionary or Functional prototype	Extends initial interface requirements into a fully functioning system. Requires specialized prototyping tool or language and produces a working application.

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## **Prototyping examples**

Proof of principle / Concept	Check technical feasibility.
Form study prototype	Focuses on basic size, look and feel of product and not on functionality. (A phone – Screen size is between 4 inch to 6 inch; Tablets are between 7 inch to 10 inch)
Usability prototype	How users interact with system.
Visual prototype	Model to test visual aspects of solution (Look and feel-Mockup).
Functional Prototype / Working model	To test software functionality, qualities of system, workflow.

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## **Prototyping methods**

Story boarding	Visually and textually details sequence of activities.
Paper prototyping	Drafted using paper and pencil.
Workflow modeling	Sequence of operations performed.

Simulation	To demonstrate solutions or solution components.
------------	--

## Strengths

- ✓ Supports users who are more comfortable and effective at articulating their needs by using pictures.
- ✓ Early user interaction and feedback.
- ✓ Throw-away prototypes are inexpensive to quickly uncover and confirm a variety of requirements.
- ✓ Proof of concept (PoC) prototypes demonstrate technical feasibility.

## Limitations

- ✗ Assumptions about underlying technology need to be made for functional prototype.
- ✗ Users may develop unrealistic expectations wrt delivered system's performance, completion date and usability.
- ✗ Users may focus on design specifications than requirements. This can constrain solution design.
- ✗ Developers try to provide a UI that precisely matches prototype, even if superior technology exists.

## 9.37 Reviews

Communicate, verify and validate work products, formally or informally. Communicate review objectives in advance to participants.

### Typical objectives can be:

- Remove defects
- Check conformity to specifications or standards
- Check completeness
- Quality measurement
- Reach consensus on approach or solution
- Issue resolution
- Alternative exploration

- Education of reviewers

### Formal techniques

Inspection (Most stringent process)	Remove defects and create a high-quality product. <i>M mandates prior self-review and distinct roles.</i>
Formal walkthrough / Team review	Uses individual reviews and team consolidation.
Single issue / Technical review	Focuses on either one issue or a standard.

### Informal techniques

Informal walkthrough	Getting feedback on draft work product.
Desk check	Independent reviewers provide feedback at their desks.
Pass around	Multiple reviewers provide feedback.
Ad hoc	Informal review or assistance from a peer.

### Roles in review

Role	Mandatory?	Played by	Responsibility	Applicable to ____ techniques
Author	Yes	Typically, business analysis	Answers questions, listens to suggestions. Incorporates changes after review session.	All
Reviewer	Yes	A peer or stakeholder	Reviews requirements document prior to review. Asks questions, comments, suggests changes and	All

			discusses them with group.	
Facilitator	Yes	*Must be neutral and independent*	Keeps participants focused. Verifies all participants have reviewed document prior. Ensures participation by all.	<ul style="list-style-type: none"> <li>• Inspection</li> <li>• Formal Walkthrough</li> <li>• Single issue review</li> </ul>
Scribe	No	*Neutral participant with strong communication skills*	Documents comments, suggestions, issues, concerns, outstanding questions.	<ul style="list-style-type: none"> <li>• Inspection</li> <li>• Formal</li> <li>• Informal Walkthrough</li> </ul>

### Strengths

- ✓ Promotes stakeholder discussions and involvement for quality output.
- ✓ Identifies defects early.
- ✓ Desk checks and pass around reviews are convenient.

### Limitations

- ✗ Rigorous team reviews can be time consuming.
- ✗ Informal reviews are more practical but may not ensure removal of significant defects.
- ✗ Difficult to validate whether prior independent review in desk check and pass around reviews.
- ✗ Can lead to repeated revisions if changes are not carefully managed.
- ✗ Sharing and discussing review comments over e-mail can elongate approval process.

## 9.38 Risk Analysis and Management

Identify, analyze, evaluate, develop mitigations and manage risks. Risks categories are business risk, technology risk, organizational risk, and market risk etc.

Identify risks: Use expert judgment, stakeholder input, experimentation, past experiences and historical analysis of similar initiatives. Identify comprehensive set of relevant risks to minimize unknowns. Record in risk register.

Risk	Consequences	Probability	Impact	Risk Level	Mitigation
Non-availability of Domain SMEs	Delay in schedule	Medium	High	High	Identify back-up of key SMEs

## Analysis

Understand risk and estimate level of a risk. Consider existing controls when analyzing risks.

Impact>	Scope	Qualification	Cost	Effort	Duration	Reputation
Low	L	L	L	L	L	
Medium						
High						H

**Evaluation:** Compare risk analysis results with potential value of change to determine if level of risk is acceptable or not. Add risk levels to obtain overall risk level.

## Common risk treatment approaches

Avoid	Remove source of risk so that risk does not occur.
Transfer	Liability for dealing with risk is moved to, or shared with, a third party, such as insurance.
Mitigate	Reduce risk probability or possible negative consequences.

Accept	Decide not to do anything about risk. If risk does occur, a workaround will be developed at that time.
Increase	Decide to take on more risk to pursue an opportunity.

### Strengths

- ✓ Can be applied at multiple levels - strategic, tactical or operational (Common theme).
- ✓ Successful risk responses on one initiative can be useful for others.
- ✓ Ongoing risk management helps to re-evaluate risks and suitability of planned responses.

### Limitations

- ✗ # of possible risks can become unmanageably large.
- ✗ Possible to manage only a subset of potential risks.
- ✗ Often significant risks are not be identified.

## 9.39 Roles and Permissions Matrix

Ensures coverage of activities by denoting responsibility, to identify roles, and to discover missing roles.

### Can be at different levels:

- Initiative level roles and responsibilities with RACI matrix.
- IT system roles and responsibilities with CRUD (Create, Read, Update and Delete) matrix.

Activity	Role 1	Role 2	Role 3	Role 4	Role 5
Create project	X				X
View project	X	X	X	X	X

### **Identify roles**

Review organizational Chart, job descriptions, procedure manuals and user guides, and discuss with stakeholders. Look for common functions performed by individuals with similar needs.

### **Identify activities**

Use functional decomposition, process model and use cases.

### **Identifying authorities**

Authorities are actions that identified roles are permitted to perform. For each activity, identify authorities for each role.

**Delegation:** Identify which authorities can be delegated by one individual to another on a short-term or permanent basis.

Inheritance: Automatic assignment to subsidiaries.

### **Strengths**

- ✓ Provides procedural checks and balances, and data security, by restricting individuals from performing all actions.
- ✓ Promotes improved review of transaction history. Audit logs can capture details about any assigned authorities at time.
- ✓ Provides documented roles and responsibilities for activities.

### **Limitations**

- ✗ Need to recognize required level of detail - Too much detail can be time consuming, too little detail can exclude necessary roles.

## **9.40 Root-Cause Analysis (RCA)**

Identify and evaluate underlying causes of a problem, looking into causes occurring due to people, physical or organizational effects. RCA is used for:

Reactive analysis: For corrective action.

Proactive analysis: For preventive action.

4 key activities used in RCA are:

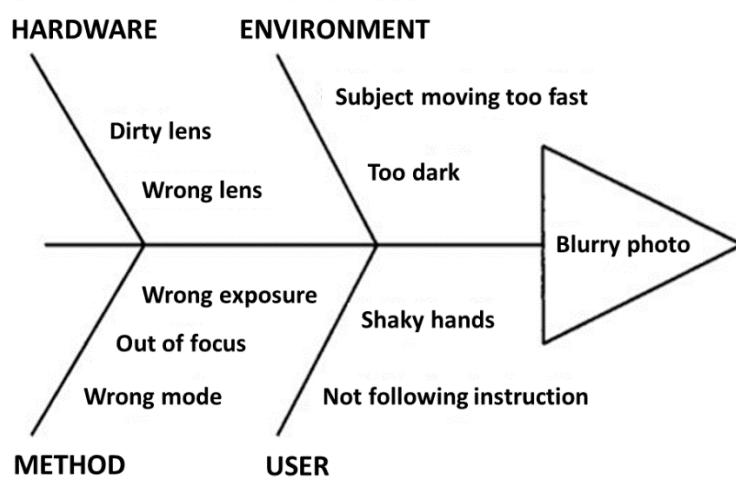
#### Problem Statement Definition

1. Data Collection
2. Cause Identification
3. Action Identification

#### 2 popular tools for RCA:

**Fish-bone diagram:** Also known as Ishikawa or Cause-and-effect diagram, are to identify and organize possible causes of a problem. Helps to focus on cause of problem versus solution and organizes ideas for further analysis.

Steps to develop a cause-and-effect diagram:



1. Capture issue or problem in a box at right end of diagram.
2. Draw a line from box across - spine of fishbone.
3. Brainstorm major categories - Draw diagonal lines from spine for major categories of potential causes (people, process, tools and policies).
4. Brainstorm minor categories - Draw smaller lines to represent deeper causes.
5. Conduct further analysis to validate actual cause, ideally with data.

6. Brainstorm potential solutions after identifying actual cause.

### **Five-whys**

Ask repeatedly "Why" to find out root cause of a problem. Simplest facilitation tool to use when problems have a human interaction component. Steps:

1. Write problem visibly.
2. Ask "Why do you think this problem occurs?" and capture idea below problem.
3. Ask "Why?" again and capture that idea below first idea.
4. Continue with step 3 until you are convinced actual root cause has been identified.

#### **Example:**

Our response time is more than specified time.

1. The hardware is slow.
2. Due to lack of required RAM.
3. It is expensive.

Five-whys may take more or less than five times of asking why. It is called five-whys because often it takes that many whys to reach root cause, not because it must be asked five times. Five-whys can be used alone, or as part of fishbone diagram technique. Once all ideas are captured in the diagram, use five-whys approach to drill down to root causes.

### **Strengths**

- ✓ Structured method to identify root causes.
- ✓ Helps to come up with effective solutions.

### **Limitations**

- ✗ Need formal training or extensive experience to facilitate a team of experts.
- ✗ Prove to be difficult with complex problems.

## 9.41 Scope modelling

Describe scope of analysis or scope of a solution. They serve as a basis for defining and limiting scope of business analysis and project work.

Scope models show:

In-scope: Elements contained by boundary (as seen from inside). E.g.: Functional decomposition.

Out-of-scope: Elements not contained within boundary (as seen from outside). E.g.: Context diagram.

Both: Elements on both sides of boundary (as seen from both sides).

### Strengths

- ✓ Help in defining contractual obligations.
- ✓ Help in project effort estimation.
- ✓ Provide justification of In-scope/Out of scope decisions.
- ✓ Help in assessing completeness and impact of solutions.

### Limitations

- ✗ At a high-level.
- ✗ Scope change can be difficult due to political and contractual obligations.
- ✗ Wrong assumptions, changing needs, technological advancements can change scope.
- ✗ Common complex boundaries such as a horizon (a boundary that is completely dependent on position of stakeholder) cannot be addressed by traditional scope models.

## 9.42 Sequence Diagrams

Sequence diagrams (also known as event diagrams) model logic of usage scenarios, by showing information (also known as stimuli, or message) passed between objects during execution of a scenario. Sequence diagrams show how objects (interface components or software components) interact but not how they are related to one another.

### Strengths

- ✓ Shows interactions between objects in visual and chronological (time) order.
- ✓ Refines use cases with more details.

### Limitations

- ✗ Creating sequence diagram for every use case can be a waste of time and effort.
- ✗ Fairly technical.

## 9.43 Stakeholder List, Map, or Personas

Identify and analyze stakeholders affected by a proposed initiative or share a common business need, level of decision-making authority, authority within domain and organization, attitude/interest towards change, and business analysis work.

BAs : Meet your stakeholders!



Supports if  
interest is  
favored

Powerful yet  
slow

Powerful and  
Influential



Committed to  
project success

Slow and  
steady

Fast and fickle

**ADAPTIVE US**



Can view far  
ahead

My way or  
high way

Wakes up  
during  
Go Live!

## Stakeholder lists

Brainstorm and interview to generate a stakeholder list. An exhaustive stakeholder list ensures that important stakeholders and groups have not been overlooked. Minimizes risks of missing out requirements.

Stakeholder maps: Represent relationships of stakeholders to solution and to one another.

**Stakeholder matrix:** Maps level of stakeholder influence against level of stakeholder interest/impact.

**Onion diagram:** Levels of stakeholder involvement with solution / project / process.

## Responsibility (RACI) matrix

Responsible	One who performs the task.
Accountable	Decision maker and held accountable.
Consulted	Stakeholder or stakeholder group asked for opinions, typically SMEs.
Informed	Stakeholder or stakeholder group who are informed of tasks.

## Personas

Persona is a fictional character that depicts way a typical user interacts with a product.

## Strengths

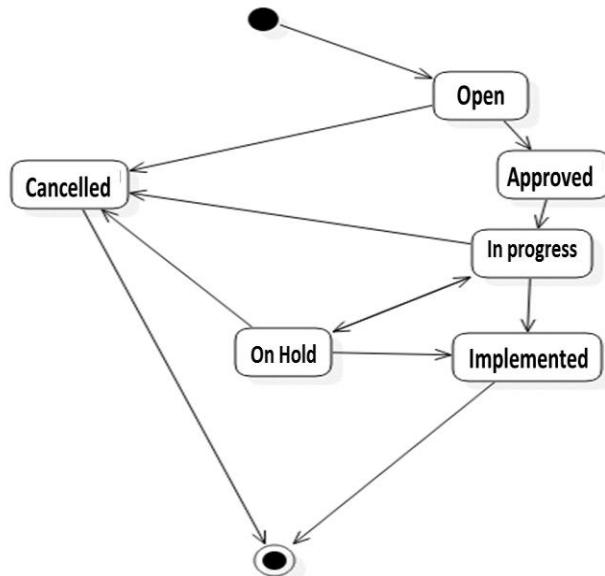
- ✓ Identifies stakeholders for elicitation.
- ✓ Helps to engage all stakeholder groups.
- ✓ Assist in analyzing stakeholders and their characteristics.

## Limitations

- ✗ Influence and interest assessment can be complex and risky.
- ✗ Some may not feel the need for it in ongoing projects.

## 9.44 State Modelling

State models (aka state transition model) analyze different possible states (formal representation of a status) of an entity within a system, how that entity changes from one state to another and what can happen to entity when it is in each state.



**A state model describes:**

1. Set of possible states (Statuses) for an entity,
2. Sequence of states,
3. Events and conditions that cause state change and
4. Actions that the entity can perform.

Process models show all of entities affected by the process. State models show a complementary view: what happens to one entity across all processes.

**State:** An entity can have can be in more than one state (Active-In progress, Inactive-Cancelled) at same time. A complex state can be decomposed into sub-states.

**State transition:** State transitions (can be conditional, automatic or recursive) are determined by steps of a process, by business rules, or by information content.

State sequences are not always linear; an entity could skip over several states or revert to a previous state, more than once.

### **State diagram**

A state diagram shows life cycle of one entity, beginning when entity first comes into existence and moving by all of different states that entity may have until it is discarded and no longer of use. A state is shown as a rectangle with rounded corners.

### **State tables**

A state table is a 2-dimensional matrix showing states and transitions between them. Used during elicitation and analysis either as an alternative, a precursor (prior), or a complement to a state diagram. A simple way to get started on a state model to elicit state names and event names from Domain SMEs.

### **Strengths**

- ✓ Better understanding of entities having complex behavior and rules.
- ✓ Identifies business rules.
- ✓ Identifies activities applying to different states.

### **Limitations**

- ✗ Consumes time and effort.
- ✗ Obtaining consensus is time-consuming

## **9.45 Surveys or Questionnaire**

Administers a set of written questions to stakeholders and SMEs. Can elicit information from many people, sometimes anonymously, in a relatively short period of time.

### **Steps for survey**

- Define purpose and objective of survey.
- Identify target groups.
- Minimize respondent's time, *max 10 minutes*.
- Select sample group. Be aware of group's characteristics.

- Use information about background of target group to develop questions.
- Divide significantly diverse groups into smaller and homogeneous groups.
- Identify distribution and collection methods.
- Define target level and timeline for responses.
- Determine whether survey should be followed up with individual interviews.
- Write survey questions.
- Perform usability test on survey.
- All questions must be directed towards stated objectives.
- Arrange questions in an order which tells a story.
- Ensure questions are clear and concise, use familiar terminologies.

### **Avoid following:**

- Double questions in a single question.
- Negative phrasing.
- Complex branching structures.
- Uncomfortable questions.
- Information restricted by regulations.

### **Distribute survey or questionnaire**

- Communicate survey objectives, use of results and arrangements for confidentiality or anonymity.
- Select distribution means according to organizational policies, urgency of obtaining results, Level of security required and Geographic distribution of respondents.

### **Document survey results**

- Collate responses.
- Analyze and summarize results.
- Report findings to sponsor.

### **Strengths**

- ✓ Quick and relatively inexpensive.
- ✓ Does not require significant time from stakeholders.
- ✓ Works when stakeholders are not located in one location.
- ✓ Closed-ended surveys can be used in statistical analysis.
- ✓ Open-ended surveys can provide insights and opinions.

## Limitations

- ✗ Open-ended surveys require more analysis.
- ✗ To achieve unbiased results, specialized skills in statistical sampling methods are required.
- ✗ Questions may be left unanswered or answered incorrectly due to their ambiguity.
- ✗ Follow up survey iterations may be required.
- ✗ Response rates can be too low for statistical significance.

## 9.46 SWOT Analysis

SWOT is an acronym for Strengths, Weaknesses, Opportunities, and Threats framework for strategic planning, opportunity analysis, competitive analysis, business, and product development. Strengths and weaknesses are internal, while Opportunities and Threats are external. Can be performed at any scale from enterprise, division, business unit, project or even an individual.

<b>Strengths(Internal)</b>	<b>Opportunities (External)</b>
Anything that assessed group does well, such as experienced personnel, effective processes, IT systems, customer relationships.	Factors that assessed group can take advantage of such as new markets, new technology, changes in marketplace etc.
<b>Weaknesses(Internal)</b>	<b>Threats(External)</b>
Things that assessed group do poorly or not at all such as not having market access.	External factors that can negatively affect assessed group such as a new competitor, economic downturns, or other forces.

### Strengths

- ✓ Helps quickly analyze various aspects of current state, and environment prior to identifying potential solution options.
- ✓ Focusing on factors which add value to business.

### Limitations

- ✗ High-level view needs further analysis.

- ✗ Clear context needed to stay within focus.

## 9.47 Use Cases and Scenarios

Use cases and scenarios describe how actors (a person or a system) interacts with a solution to accomplish one or more of that person or systems goals. Use case has 2 parts: Use case diagram and Use case specifications.Scenarios depict series of steps performed by actors and solution to achieve a goal. A use case describes several scenarios in form of primary, and alternate or exception flows.

**Use case diagram:** Visually depicts scope of solution, actors involved, and use cases.

### Strengths

- ✓ Good at clarifying scope and providing a high-level understanding of requirements.
- ✓ Use case specifications make it easy to understand functional behavior of a system.

### Limitations

- ✗ Written at higher-level of abstraction (low level of detail).
- ✗ Lack of standardized formats.
- ✗ Need analysis to identify include use cases.

## 9.48 User Stories

User stories are a brief textual description, typically 1 or 2 sentences, of functionality that users need from a solution to meet a business objective. User story describes actor (who uses story), goal they are trying to accomplish, and any additional information to be critical to understanding scope of story. It is a tool for short-term capture and prioritization of requirements and not for long-term knowledge retention or to provide a detailed analysis. Only detail to be included is information to create estimate.

### User stories include:

**Title:** Active-verb phrase which describes activity that a stakeholder wants to carry out with the system.

### **Statement of value.**

2 common formats (non-mandatory) are:

"As a <who>, I need to <what>, so that <why>."

As a PM, I should be able to upload MPP file to sync my project schedule.

"Given...When...Then."

Given that I am a registered user, when I visit the web-site, then I should be able to access all the program content.

### **Conversation**

Helps team to understand feature and value it will deliver to stakeholder.

### **Acceptance criteria**

Helps team to understand what solution needs to provide to deliver value for stakeholders.

### **Strengths**

- ✓ Easily understood.
- ✓ Prioritizing, estimating and planning solutions.
- ✓ Focuses on value to stakeholders.
- ✓ Shared understanding of domain by collaboration while developing user stories.
- ✓ Facilitates rapid delivery and feedback by small, implementable, and testable slices of functionalities.

### **Limitations**

- ✗ Can prove to be a challenge due to lack of detailed specifications.
- ✗ Requires context and visibility. Should be supplemented with higher level analysis and artifacts.
- ✗ Regulatory restrictions, or when organization mandates documentation.

## 9.49 Vendor Assessment

Assess ability of a potential vendor to meet commitments wrt delivery and consistent provision of a product or service. Ensure that supplier is financially secure, capable of maintaining specific staffing levels, committing appropriately skilled staff to support solution, etc. NFRs can be used to define service levels (SLAs) expected of a third party.

Assess vendors formally using Request for Information (RFI), Request for Quote (RFQ), Request for Tender (RFT), or Request for Proposal (RFP).

*RFI: Intent is to get information. Open to multiple solutions.*

*RFP: Intent is to get proposal when scope is understood.*

*RFQ: Solution is defined. To get the price.*

*RFT: Has legal mandate.*

### Steps for vendor assessment

Determine knowledge, and expertise to be transferred, and method of execution. Consider vendors to provide knowledge, and expertise not internally available.

### Choose licensing and pricing models

Solutions with similar functionalities may differ greatly in licensing models. Analyze different usage scenarios to determine which option will provide best benefit to cost ratio. Determine product reputation and market position. Compare each vendor with competitors and decide with which player organization wants to get involved.

### Determine terms and conditions

Determine if services provided by vendor is temporary or permanent. Consider challenges in vendor's licensing terms, and technology while transitioning to another vendor. Consider vendor's use of, and responsibility for protecting integrity of organization's confidential data, and customization terms for product.

### **Determine vendor reputation**

Vendor's experiences with other customers provide valuable information on how likely vendor will be able to meet its contractual, and non-contractual obligations. Evaluate vendors for conformance, and compliance with external relevant standards for quality, security, and professionalism.

### **Determine vendor stability**

Determine vendor's ability to provide required services in future. Mitigate risks wrt vendor financial difficulties. Ensure to maintain and enhance solution even if vendor's situation changes radically.

#### **Strengths**

- ✓ Ensures vendor is reliable and organization expectations are met.
- ✓ Reduces risk of choosing an unsuitable vendor.
- ✓ Improved long-term satisfaction with decision.

#### **Limitations**

- ✗ Time-consuming to gather sufficient information on multiple vendors.
- ✗ Risk of failure as partnership evolves cannot be prevented.
- ✗ Subjectivity may bias evaluation outcome.

## **9.50 Workshops**

Requirements workshop, also known as JAD (Joint application design) session, is a highly productive focused event attended by carefully selected key stakeholders, and SMEs for a short, intensive period (typically 1 to a few days). Workshops may be used to generate new ideas for features or products, reach an agreement on a topic or review requirements.

An experienced, neutral facilitator must facilitate requirements workshop. A scribe documents requirement, and outstanding issues. Business analyst may act as facilitator or scribe and can also be a participant in case she is an SME on topic. However, she MUST approach participant role with caution, as she may unduly influence requirements towards her own viewpoints, and priorities.

## Prepare for requirements workshop

- Clarify stakeholders' needs, and purpose of workshop.
- Identify critical stakeholders for workshop.
- Identify facilitator and scribe.
- Define workshop's agenda.
- Determine how to document outputs of workshop.
- Schedule sessions and send invitations.
- Arrange logistics.
- Send materials in advance to so that attendees come prepared.
- Conduct pre-workshop interviews with (key) attendees to ensure purpose of requirements workshop is understood, and aligned with needs of (key) attendees.

## Workshop roles

Sponsor	Has ultimate accountability for outcome of workshop. Not a frequent participant.
Facilitator	Introduces goals, agenda, and rules, facilitates decision making and conflict resolution, gives participants a chance and ensures they don't deviate from topic.
Scribe	Documents decisions in a pre-determined format. Keeps track of items deferred during session.
Time keeper	Keeps track of time spent on each item in agenda.
Participants	Key stakeholders and SMEs.

## Conduct requirements workshop

- State purpose of workshop and desired outcomes.
- Establish agreed upon ground rules.
- Maintain focus by frequently validating workshops activities with stated objectives.

## Post requirements workshop wrap-up

- Follow up on any open action items.
- Complete and distribute documentation.

## **Strengths**

- ✓ Get detailed requirements in a short time.
- ✓ Means for stakeholders to collaborate, to reach consensus, make decisions, and gain mutual understanding of requirements.
- ✓ Costs lower than cost of performing multiple interviews as interviews may yield conflicting requirements, and resolving same can be very costly.
- ✓ Stakeholders can immediately validate facilitator's interpretation of requirements, as feedback is immediate.

## **Limitations**

- ✓ Difficult to schedule.
- ✓ Highly dependent on expertise of facilitator, and knowledge of participants.
- ✓ Too many participants can slow down workshop.
- ✓ Not collecting inputs from all participants can lead to overlooking of important requirements.

## Appendix - About Adaptive US Inc.

Adaptive US Inc. provides CBAP®, CCBA ®, ECBA™, IIBA AAC™ online trainings, question banks, study guides, simulators, flash cards, audio books, digital learning packs across the globe.

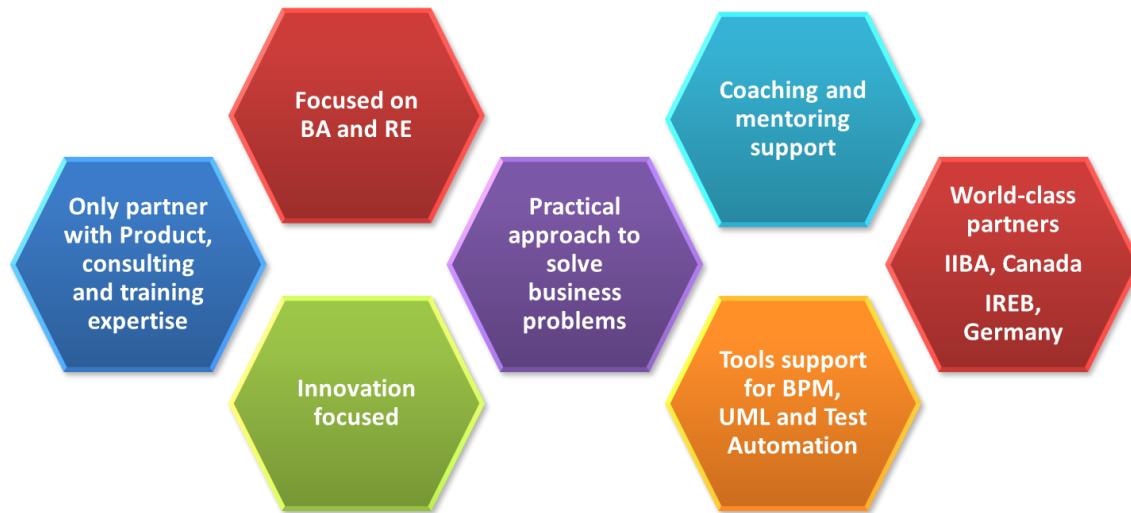
Adaptive US Inc. is the only training organization to offer success guarantee and all-inclusive plans for its workshops.

### Key facts

- ✓ World's #1 IIBA® V3 training organization
- ✓ World's largest business analysis publisher and assessments provider
- ✓ Premiere Partner to IIBA®, Canada and IREB, Germany
- ✓ 600+ certified Business analysis professionals
- ✓ 300+Business analysis workshops – 5000+ Business analysts trained
- ✓ Our trainers are part of BABOK® V3 team



## Unique benefits of working with us



## Our key clients



## Adaptive workshops catalogue

Course Name
Certified Business analyst Professional (CBAP®) (Endorsed by IIBA®, Canada)
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Workshops	Rem. days										Exam Date
CCBA V3 Essential	186										

Workshop detail

Upcoming sessions

#	Faculty	Date	Timings	Webinar Link	Record 1	Record 2	Record 3	Record 4	Record 5
1	Peter Johnson	03 Nov 2018	9.00 to 13.30 ET						

**Study Guide section comprising of workshop materials, mind maps, exam prep help, reference materials etc.**

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Workshop Materials

- BABOK V3 Mind-Map
- BABOK V3 Techniques Mind-map
- CCBA Study Guide
- Instructions for joining Webex classes

Reference Materials

- BABOK v3 Glossary

## Attempt questions of varying difficulty levels:

**REFINE**

Status [CLEAR](#)

- Passed
- Not attempted
- Failed

Level [CLEAR](#)

- Fundamental
- Competency-based
- Scenario-based
- Simulation

Group [CLEAR](#)

- Overall
- Req. analysis
- Techniques
- Terms

Intro

Ready

CCBA V3 - Warm up - Intro to BA

Planning

Passed

Passed

Passed

CCBA V3 - Drill - BA Planning and Monitoring

BABOK V3 - Concept Questions - BA Planning

CCBA V3 - Warm up - BA Planning & Monitoring

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**CCBA V3 - Simulation Test Set - 03**  
Question 24 of 130

03 Hours 29 Minutes 15 Seconds

Un-attempted   Review   Attempted

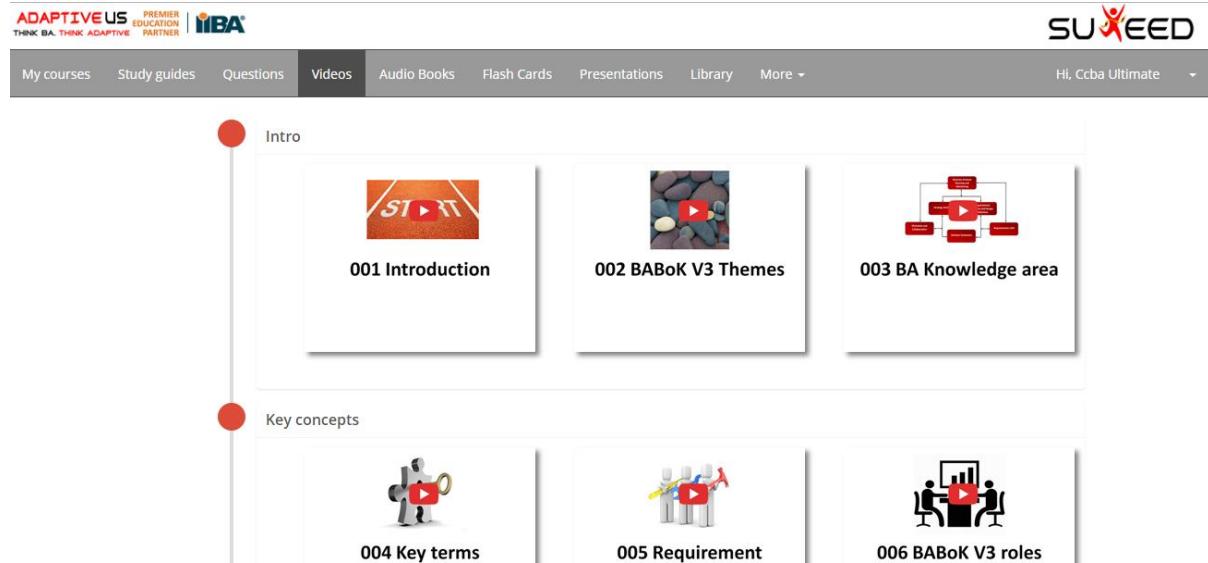
Business analyst B does not feel the need to assess current performance. B's opinion is that the new system is far superior to the old one and stakeholders are anyway going to love the new application. What is the risk that B is running into?

1 2 3 4 5 6 7 8 9 10  
 11 12 13 14 15 16 17 18 19 20  
 21 22 23 24 25 26 27 28 29 30  
 31 32 33 34 35 36 37 38 39 40  
 41 42 43 44 45 46 47 48 49 50  
 51 52 53 54 55 56 57 58 59 60  
 61 62 63 64 65 66 67 68 69 70

(?)  A prudent decision  
 (?)  An assumption that could become a risk  
 (?)  Discuss with Domain SME to seek acceptance  
 (?)  Discuss with sponsor to seek acceptance

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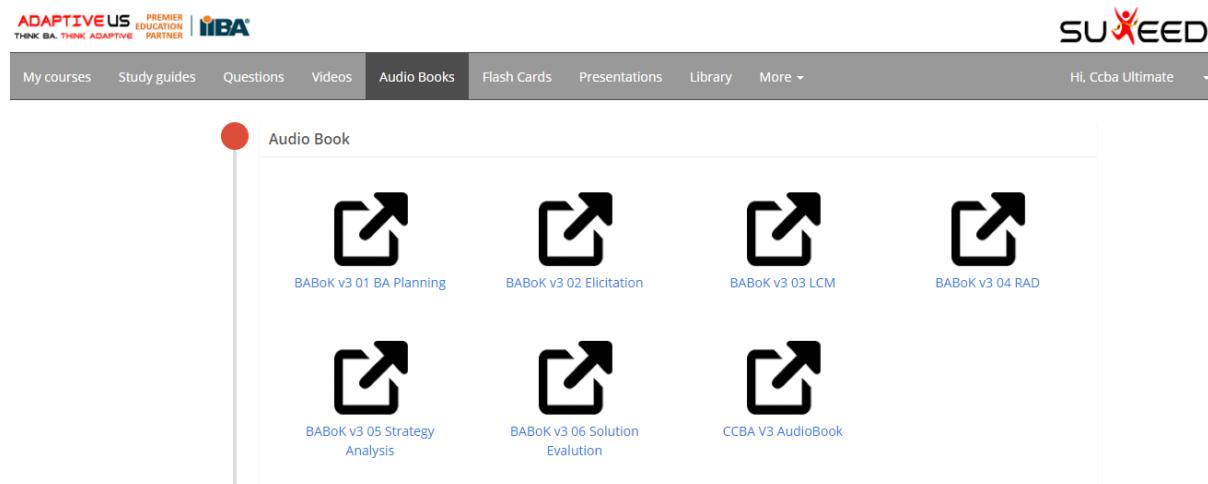
Intro

001 Introduction 002 BABoK V3 Themes 003 BA Knowledge area

Key concepts

004 Key terms 005 Requirement 006 BABoK V3 roles

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Audio Book

BABoK v3 01 BA Planning BABoK v3 02 Elicitation BABoK v3 03 LCM BABoK v3 04 RAD

BABoK v3 05 Strategy Analysis BABoK v3 06 Solution Evaluation CCBA V3 AudioBook

## Flash cards- A fun way to learn and memorize key terms used in each BABoK KA

The screenshot shows a grid of eight flash cards, each featuring a red square icon with a white arrow pointing up-right. Below each icon is a title:

- CCBA V3 - BA Planning
- CCBA V3 - Elicitation
- CCBA V3 - Req. LCM
- CCBA V3 - Req. Analysis
- CCBA V3 - Strategy Analysis
- CCBA V3 - Soln. Evaluation
- CCBA V3 - Flash Cards Sample

## Access all faculty presentations used during the live lectures

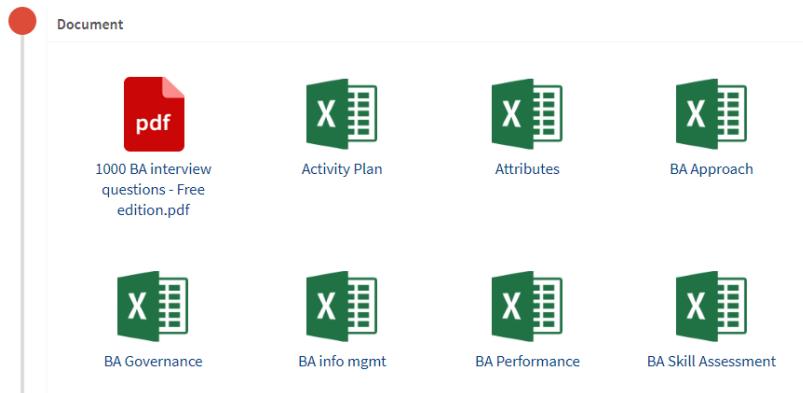
The screenshot shows a grid of eight presentation files, each with a red PDF icon. Below each icon is a title:

- Module 01 - Intro - Program Intro
- Module 02 - Intro - BA Knowledge Areas
- Module 03 - Intro - BABoK Key terms
- Module 04 - Intro - Techniques for BA Planning
- Module 05 - Intro - BA Planning and monitoring
- Module 06 - Task 1 - Plan BA approach
- Module 07 - Task 2 - Plan Stakeholder engagement
- Module 08 - Task 3 - Plan BA Governance

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-----End of Document-----