Business Analysis planning & Monitoring:

Organize and coordinate the efforts of business analysts and stakeholders;

produce outputs that are used as key guidelines for the other tasks throughout the BABOK Guide.对 BA 工作中的方法流程，结果以及评估内容/方法进行规定，保证 BA 工作开展有章可循。

3.1 Plan Business analysis approach:规划工作方法，以便指导分析工作开展。

Define an appropriate method to conduct business analysis activities.

The business analysis approach may be defined by a methodology or by organizational standards.

If organizational standards do not exist, the business analyst works with the appropriate stakeholders to determine how the work will be completed.

Inputs:

Needs: the business analysis approach is shaped by the problem or opportunity faced by the organization. It is necessary to consider what is known about the meed at the time of planning, while acknowledging that understanding evolved throughout business analysis activities.

Outputs:

Business Analysis Approach: Identifies the business analysis approach and activities that will be performed across an initiative including who will perform the activities, the timing and sequencing of the work, the deliverables that will be produced and the business analysis techniques that may be utilized.业务分析方法/流程，指导 BA 所有工作的开展，并进行约束。

The remaining outputs of the business analysis planning and monitoring knowledge area may be integrated into an overall approach or be independent based upon methodology, organization, and perspective.和其他方式方法融为一体/合并。

Many planning methods fit somewhere along a continuum between predictive and adaptive approaches.

Predictive approaches focus on minimizing upfront uncertainly and ensuring that the solution is defined before implementation begins in order to maximize control and minimize risk.前期将解决方法全部定义好，并考虑尽量多的风险并进行控制。

Adaptive approaches focus on rapid delivery of business value in short iterations in return for acceptance of a higher degree of uncertainty regarding the

overall delivery of the solution.保证在短时间内持续交付，适用于解决方法无法明确的情况下。

	Approach	
	Predictive "waterfull"	**Adaptive "Agile"**
Solution Definition	Defined before implementation to maximize control and minimize risk.	Defined in iterations to arrive at best solution or improve an existing solution.
Level of Formality	Formal-information is captured in standardized templates.	Informal-information is gathered through team interaction and feedback.
Activities	Activities required to complete deliverables are identified first and then divided into tasks.	Activities are divided into iterations with deliverables first and then the associated tasks are identified.
Timing	Tasks are performed in specific phases.	Tasks are performed iteratively.

3.2 Plan Stakeholder Engagement 规划干系人沟通

Plan an approach for establishing and maintaining effective working relationships with the stakeholder.和干系人沟通更有效率

The result of the analysis are the utilized to define the best collaboration and communication approaches for the initiative and to appropriately plan for stakeholder risks.

Inputs:

Needs: understanding the business need and the parts of the enterprise that it affects helps in the identification of stakeholders.客观存在的问题或机会。输出的图表/模型等来描述客观存在的 needs 即为 requirements。

Business Analysis Approach: incorporating the overall business analysis approach into the stakeholder analysis, collaboration, and communication approaches is necessary to ensure consistency across the approaches. 合并整个业务分析，确保方法之间的一致性。

Outputs:

Stakeholder Engagement Approach: Contains a list of the stakeholders, their characteristics which were analyzed, and a listing of roles and responsibilities for the change. It also identifies the collaboration and communication approaches the business analyst will utilize during the initiative. （stakeholder register; stakeholder communication plan, stakeholder collaboration plan）

3.3 Plan Business analysis governance 规划需求决策

Define how decisions are made about requirements and designs, including reviews, change control, approvals, and prioritization.

A governance process describes how approvals and prioritization decisions are made for requirements and designs.

Inputs:

Business Analysis Approach: incorporating the overall business analysis approach into the governance approach is necessary to ensure consistency(一致性) across the approaches.

Stakeholder Engagement Approach: identifying stakeholders and understanding their communication needs is useful in determining their participation in the governance approach. The engagement approach may be updated based on the completion of the governance(管理) approach.

Outputs:

Governance Approach: Identifies the stakeholders who will have the responsibility and authority to make decisions about business analysis work, including who will be responsible for setting priorities and who will approve changes to business analysis information.

Define the process that will be utilized to manage requirement and design changes across the initiative.

Change control process:变更控制

Determine the process for requesting changes;

Determine the elements of the change request: cost and time estimates; benefits; risks; priority; course of action;

Determine how changes will be prioritized;

Determine how changes will be documented;

Determine how changes will be communicated;

Determine who will perform the impact analysis;

Determine who will authorize changes.

3.4 Plan BA information management 规划需求信息管理

Develop an approach for how business analysis information will be stored and accessed.让业务相关信息有调理的组织在一起，方便长期获取。

Business analysis information is comprised of all the information business analysts elicit(引出/挖掘), create(创造), compile(编译/编辑), and disseminate(传播) in the course of performing business analysis. This includes requirements and designs, from lightweight user stories to formal requirement documents to functioning prototypes.

Inputs:

Business Analysis Approach: incorporating the overall business analysis approach into the information management approach is necessary to ensure consistency across the approaches.

Governance Approach: define how business analysts manage changes to requirements and designs, how decisions and approvals for business analysis deliverables will be made, and how priorities will be set.

Stakeholder Engagement Approach: identifying stakeholders and understanding their communication needs is useful in determining their specific information management needs.

Outputs:

Information Management Approach: Includes the defined approach for how business analysis information will be stored, accessed, and utilized during the change and after the change is complete.

3.5 Identify BA performance improvements 定义业务分析改进方法

Assess business analysis work and plan to improve processes where required.

Once potential performance improvements are identified they become guidelines for the next time a task is executed.

Inputs:

Business Analysis Approach: identifies business analysis deliverables that will be produced, activities that will need to be performed (including when they will be performed and who will be performing them), and techniques that will be used.

Performance Objectives(external): describe the desired performance outcomes that an enterprise or organization is hoping to achieve.

Outputs:

BA 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.

4 Elicitation & Collaboration 挖掘和收集需求

Obtain information from stakeholders and confirm the results.

Communication with stakeholders once the business analysis information is assembled.

4.1 Prepare the Elicitation

Understand the scope of the elicitation activity, select appropriate techniques, and plan for (or procure) appropriate supporting materials and resources.明确活动范围，选择合适的方法，获取相关材料和资源。

Inputs:

Needs: guides the preparation in terms of the scope and purpose of elicitation activities. Elicitation can be used to discover the needs, but in order to get started there must be some need that exists --- even if it has not yet been fully elicited or understood.以 need 作为输入，而这个 area 在做的事情，就是在不断细化和明晰 needs。

Stakeholder Engagement Approach: understanding stakeholders' communication and collaboration needs helps plan and prepare appropriate and effective elicitation events. 对象是谁，如何沟通，需以干系人管理规划做输入。

Outputs:

Elicitation Activity Plan: Used for each elicitation activity. It includes logistics, scope of the elicitation activity, selected techniques, and supporting materials.

Scope of elicitation: understanding the scope of the elicitation activity allows analysts to respond if the activity strays from the intended scope. It also allows them to recognize if people and materials are not available in time, and when the activity is complete.

Elicitation **Techniques**: A thorough understanding of the variety of techniques available assists the business analyst in adapting to changing circumstances.

Set up **Logistics(后勤):** the logistics may also involve creating an agenda(日程) if other stakeholders are involved.

Secure **supporting material**: Business analysts procure or develop the materials and tools needed. Additional planning for experimental elicitation might be required of novel tools, equipment, or techniques are going to be used.

Prepare **stakeholders**: Business analysts may need to educate stakeholders on how an elicitation technique works or what information is needed. In preparing for elicitation, the business analyst should ensure that there us buy-in from all

necessary stakeholders. Business analysts may also prepare stakeholders by requesting that they review supporting materials prior to the elicitation activity in order to make it as effective as possible.

4.2 Conduct Elicitation 执行信息获取

Draw out, explore, and identify information relevant to the change. One or more elicitation techniques may be used to produce the desired outcome within the scope of elicitation.明确挖掘，识别真正有用的信息。

There are three common types of elicitation:

Collaborative: involves direct interaction with stakeholders, and relies on their experiences, expertise, and judgment. 直接与干系人交流。

Research: involves systematically discovering and studying information from materials or sources that are not directly known by stakeholders involved in the change. Stakeholders might still participate in the research.文件研究，程序文件等。Data analysis

Experiments: involves identifying information that could not be known without some sort of controlled test. Some information cannot be drawn from people or documents -- because it is unknown. Experiments can help discover this kind of information. Experiments include observational studies, proofs of concept, and prototypes.

Inputs:

Elicitation Activity Plan: includes the planned elicitation activities and techniques, activity logistics (eg. date, time, location, resources, agenda), scope of the elicitation activity, and available sources of background information.

Guide elicitation activity: 引导保证目标顺利进行；
Capture elicitation outcomes: 信息收集需进行一定输出。

Outputs:

Elicitation Results (unconfirmed): captured information in a format that is specific to the elicitation activity.

4.3 Confirm Elicitation Results

Check the information gathered during an elicitation session for accuracy(准确) and consistency(一致) with other information.

Compare elicitation results against their source and other elicitation results. if the results are inconsistent, additional elicitation might need to be conducted.

Elicited information is confirmed to identify any problems and resolve then before resources are committed to using the information. This review may discover errors, omissions, conflicts, and ambiguity.

Collaboration with stakeholders might be necessary to ensure their inputs are correctly captured and that they agree with the results of non-facilitated elicitation.

Inputs:

Elicitation Results (unconfirmed): capture information in a format specific to the elicitation activity.

Outputs:

Elicitation Results (confirmed): Integrated output that the business analyst and other stakeholders agree correctly reflects captured information and confirms that it is relevant and useful as an input to further work.

Compare elicitation results against source information: The business analyst may lead follow-up meetings where stakeholders correct the elicitation results. Stakeholders may also confirm the elicitation results independently.获取的信息结果与已有的资料信息进行比较。

Compare elicitation results against other elicitation results: business analysts compare results collected through multiple elicitation activities to confirm that the information is consistent and accurately represented. 从多方获取的信息结果进行比较。

4.4 Communicate Business Analysis Information 确保干系人理解信息并达成一致

Ensure stakeholders have a shared understanding of business analysis information.确保信息的透明，公开，理解一致。

Communicate appropriate information to stakeholders at the right time and in formats that meet their needs. Acts on disagreements, and change delivering method if stakeholders are not receiving or understanding.考虑干系人的工作习惯，文化，语言等，在沟通时需将这些因素纳入。

Communicating information does not simply involve pushing information out and assuming it was received and understood. Business analysts engage stakeholders to ensure they understand the information and gain agreement.

The method of delivering the information may need to change if the stakeholders are not receiving or understanding it. Multiple forms of communication might be required for the same information.

Inputs:

Business analysis information: any kind if information at any level of detail that is used as an input or output of business analysis work. Business analysis information becomes an input for this task when the need is discovered to communicate the information to additional stakeholders.

Stakeholder Engagement Approach: describes stakeholder groups, roles, and general needs regarding communication of business analysis information.

Outputs:

Business Analysis Information (Communicated): Business analysis information is considered communicated when the target stakeholders have reached an understanding of its content and implications. BA information 不仅仅是一份文档，信息，包括：文档，图表，邮件，媒体文件等。

Determine objectives and formats of communication: possible forms for packages may include: formal documentation, informal documentation, presentations.确保沟通的对象和形式。

Communicate business analysis package: stakeholders are given the opportunity to review the package, ask questions about the information, and raise any concerns they may have. Common communication platforms include: group collaboration, individual collaboration, e-mail or other non-verbal(非语言) methods. 根据 stakeholder 选择不同的方式。

4.5 Manage Stakeholder Collaboration

Encourage stakeholders to work towards a common goal.为确保干系人目标一致，须在这个环节对干系人合作进行管理。

Ongoing activity that begins with stakeholders are identified and analyzed, continues with new stakeholders are identified, their role, influence, and relationship are analyzed.

As the business analysis work progresses, the business analyst identifies stakeholders, confirms their roles, and communicates with them to ensure that the right stakeholders participate at the right times and in the appropriate roles.

Managing stakeholder collaboration is an ongoing activity.

Inputs:

Stakeholder Engagement Approach: describes the types of expected engagement with stakeholders and how they might need to be managed.

Business Analysis Performance Assessment: provides key information about the effectiveness of business analysis tasks being executed, including those focused on stakeholder engagement.

Outputs:

Stakeholder Engagement: Willingness from stakeholders to engage in business analysis activities and interact with the business analyst when necessary.

Gain agreement on commitments: 保证所有人目标一致

stakeholders participate in business analysis activities that may require time and resource commitments. The business analyst and stakeholders identify and agree upon these commitments as early in the initiative as possible.

Monitor stakeholder engagement: BA 从业务角度，对干系人进行跟踪

Collaboration: Stakeholders are more likely to support change of business analysts collaborate with them and encourage the free flow of information, ideas, and innovations. Collaboration involves regular, frequent, and bi-directional communication.

5 Requirements Life Cycle Management

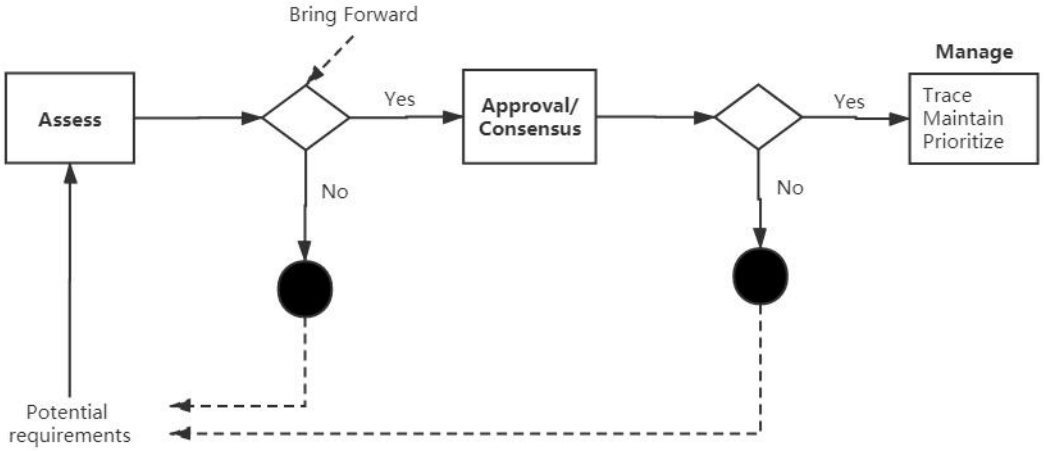
Manage and maintain requirements and design information from inception to retirement.整个生命周期（从开始到结束）

These tasks describe establishing meaningful relationships between related requirements and designs, assessing changes to requirements and designs when changes are proposed, and analyzing and gaining consensus(一致) on changes.

The purpose of requirements life cycle management is to ensure that business, stakeholder, and solution requirements and designs are aligned to one another and that the solution implements them.让业务，干系人，需求，解决方案设计保持一致并成功实施。

The management of requirements does not end once a solution is implemented. Throughout the life of a solution, requirements continue to provide value then they are managed appropriately. 需求的跟踪，维护，评估，变更，批准。

Requirement Life Cycle Management



The requirements life cycle management knowledge area includes the following tasks:

Trace Requirements; Maintain Requirements; Prioritize Requirements; Assess Requirements Changes; Approve Requirements.

5.1 Trace Requirements

Ensure that requirements and designs at different levels are aligned to one another, and to manage the efforts of change to one level on related requirements. 保证需求和设计在不同阶段的一致性，并保证需求对客户期望的满足。

Process Traceability:

Value Chain <---> Business Process <---> Sub-process <---> Activity <---> Task

Software Requirements Traceability:

Business Needs <---> Business Requirements <---> Stakeholder Requirements <---> Solution Requirements(Design <--> Code <--> Test)

Inputs:

Requirements: may be traced to other requirements (including goals, objectives, business requirements, stakeholder requirements, solution requirements, and transition requirements), solution components, visuals, business rules, and other work products.

Design: may be traced to other requirements, solution components, and other work products.

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.

Design(traced): 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.

1. Level of Formality: The efforts to trace requirements grows significantly when the number of requirements or level formality increases.

2. Relationships: There are several types of relationships that the business analyst considers when defining the traceability approach:

Derive: relationship between two requirements, used when a requirement is derived from another requirement. This type of relationship is appropriate to link the requirements on different levels of abstraction.不同层级之间的需求关系

Depends: relationship between two requirements, used when a requirement depends on another requirement. Types of dependency relationships include:某一个需求是另一个需求间的关系

Necessity: when it only makes senses to implement a particular requirement if a related requirement is also implemented.要实现一个需求必须另一个需求实现。

Effort: when a requirement is easier to implement if a related requirement is also implemented.如果一个需求实现，另一个需求将在此基础上更容易实现。

Satisfy: relationship between an implementation element and the requirements it is satisfying. 满足，需求和实施之间的关系　requirement & solution

Validate: relationship between a requirement and a test case or other element that can determine whether a solution fulfills the requirements. 验证，需求和测时间的关系　requirement & test

3. Traceability repository: requirements traceability is documented and maintained in accordance with the methods identified by the business analysis approach.可追溯的存储库

5.2 Maintain Requirements

Retain requirement accuracy and consistency throughout and beyond the change during the entire requirements lift cycle, and to support reuse of requirements in other solutions.需求的一致性，且通过之前制定的程序文件中相关流程确认以保证需求质量。同时保证需求易于获取。

Inputs:

Requirements: include goals, objectives, business requirements, stakeholder requirements, solution requirements, and transition requirements. These should be maintained throughout their life cycle.

Design: can be maintained throughout their life cycle, as needed.

Outputs:

Requirements(maintained): Defined once and available for long-term usage by the organization, may become organizational process assets or be used in future initiatives.

Designs(maintained): May be reusable once defined.

1. Maintain Requirements: Requirements are maintained so that they remain correct and current after an approved change.

2. Maintain Attributes: While eliciting requirements, business analysts elicit requirement attributes, such as the requirement’ s source, priority, and complexity aid in managing each requirement throughout the life cycle.

3. Reusing Requirements: Depending on the level of abstraction and intended need being addressed, requirements can be reused:

Within the current initiative,

Within similar initiatives,

Within similar departments,

Throughout the entire organization.高级别通用性需求最有可能被复用，非功能行需求更易复用。

5.3 Prioritize Requirements 需求优先级

Rank requirements in the order of relative importance.需求重要性进行排序

Priority can refer to the relative value of a requirement, or to the sequence in which it will be implemented.

Prioritization is a critical exercise that seeks to ensure the maximum value is achieved.

Prioritization is an ongoing process, with priorities changing as the context changes.持续性过程

Inputs:

Requirements: any requirements in the form of text, matrices, or diagrams that are ready to prioritize.

Designs: any designs in the form of text, prototypes, or diagrams that are ready to prioritize.

Outputs:

Requirements(prioritized): Prioritized or ranked requirements are available for additional work, ensuring that the highest valued requirements are addressed first.

Designs(prioritized): Prioritized or ranked designs are available for additional work, ensuring that the highest valued designs are addressed first.

1. Basis for prioritization:

Typical factors that influence prioritization include:

Benefit: the advantage that accrues to stakeholders as a result of requirement implementation.收益

Penalty: the consequences that result from not implementing a given requirement.不良结果

Cost: the effort and resources needed to implement the requirement.花费/成本

Risk: the change that the requirement cannot deliver the potential value,or cannot be met at all.风险

Dependencies: relationships between requirements where on requirement cannot be fulfilled unless the other requirement is fulfilled.依赖性，先实现共有功能的需求，再实现各部门各自独立的需求

Time Sensitivity: the ‘best before’ data of the requirement, after which the implementation of the requirement loses significant value.时间敏感度/紧急程度

Stability: the likelihood that the requirement will change, either because it requires further analysis or because stakeholders have not reached as consensus about.稳定性/成熟度

Regulatory or policy compliance: requirements that must be implemented in order to meet regulatory or policy demands imposed on the organization, which may take precedence over other stakeholder interests.政策法规

2. Challenges of Prioritization:评估划分优先级过程中出现的各种挑战

Prioritization is an assessment of relative value. Each stakeholder may value something different. There maybe a need for stakeholders to make trade-offs in prioritization.

3. Continual Prioritization:优先级评估是个持续性过程

Priorities may shift as the context evolves and as more information becomes available.

5.4 Assess Requirements Changes

Evaluate the implications of proposed changes to requirements and designs. Assessment must be performed to determine whether a proposed change will increase the value of the solution, and if so, what action should be taken.评估变更时为了评估变更对需求和设计的影响，需求是否变更的先决条件：对业务的价值。

The assess requirements changes task is performed as new needs or possible solutions are identified. These may or may not align to the change strategy and/or solution scope.

Assess the potential effect of the change to solution value, and whether proposed changes introduce conflicts with other requirements or increase the level of risk.

Ensure each proposed change can be traced back to a need.

Inputs:

Proposed Change: can be identified at any time and impact any aspect of business analysis work or deliverables completed to date. There are many triggers for a proposed change including business strategy changes, stakeholders, legal requirements, or regulatory changes.变更的提出

Requirements: may need to be assessed to identify the impact of a proposed modification.

Designs: may need to be assessed to identify the impact of a proposed modification.

Outputs:

Requirements Change Assessment: the recommendation to approve, modify, or deny a proposed change to requirements.（批准，修改，否定）

Design change assessment: The recommendation to approve, modify, or deny a proposed change to one or more design components.

1. Assessment formality: 评估方式

A predictive approach may indicate a more formal assessment of proposed changes. In predictive approaches, the impact of each change can be disruptive; the change can potentially generate a substantial reworking of tasks and activities completed in previous activities.

A adaptive approach may require less formality in the assessment of proposed changes. Adaptive approaches try to minimize the impact of changes by utilizing iterative and incremental implementation techniques.

2. Impact Analysis:

Impact analysis is performed to assess or evaluate the effect of a change. Traceability is a useful took for performing impact analysis. When considering changes or additions to existing requirements, business analysts assess the impact of the proposed change bu considering:

Benefit, Cost, Impact, Schedule, Urgency.收益 花费 影响 进度 紧急程度

3. Impact Resolution:

All impacts and resolutions resulting from the change analysis are to be documented and communicated to all stakeholders.

5.5 Approve Requirements

Obtain agreement on and approval of requirements and designs for business analysis work to continue and/or solution construction to proceed.让大家达成共识

Work with key stakeholders to gain consensus on new and changed requirements, communicate the outcome of discussions, and track and manage the approval.

Approval of requirements and designs may be formal or informal.

Predictive approaches typically perform approvals at the end of the phase or during planned change control meetings. 瀑布型项目可能会再需要客户签字确认；迭代行可能需要一个邮件回复或会议纪要即可。

Adaptive approaches typically approve requirements only when construction and implementation of a solution meeting the requirement can design.

Inputs:

Requirements(verified): a set of requirements that have been verified to be of sufficient quality to be used as a reliable body of work for further specification and development.

Designs: a set of designs that have been determined as ready to be used for further specification an development.

Outputs:

Requirements(approved): Requirements which are agreed to by stakeholders and are ready for use in subsequent business analysis efforts.

Designs(approved): Designs which are agreed to by stakeholders and are ready for use in subsequent business analysis or solution development efforts.

1. Understand stakeholder roles: part of defining the approval process is understanding stakeholder roles and authority levels.

2. Conflict and issue management: conflict resolution and issue management may occur quite often, as the business analyst is reviewing requirements and designs, and aiming to secure sign-off. 冲突和问题管理

3. Gain Consensus: business analysts are responsible for ensuring that the stakeholders with approval authority understand and accept the requirements. Complete agreement may not be necessary for a successful change, but if there is a lack of agreement, the associated risks are to be identified and managed accordingly.

4. Track and communicate approval: in order to communicate the status of requirements, it is necessary to keep accurate records of current approval status. There may be value in maintaining an audit history of changes to requirements: what was changed,, who made the change, the reason for the change, and when it was made.

明确各干系人角色/职责，着对于找合适的人确认合适的内容非常重要；

对于冲突要进行管理，主要通过沟通和引导实现；

BA 有职责促成各方干系人达成共识；

对审批进行记录追踪和沟通。

6 Strategy Analysis

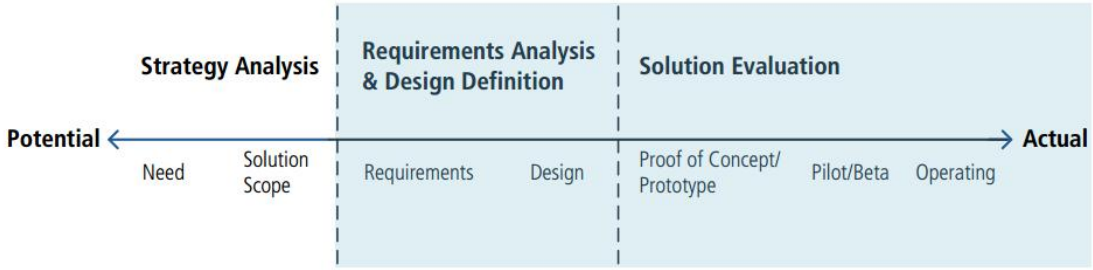
Collaborate with stakeholders in order to identify a need of strategic or tactical importance(the business need), enable the enterprise to address that need, and align the resulting strategy for the change with higher and lower level strategies.
现状分析 ——> 将来状态定义/目标 ——> 风险分析 ——> 定义解决问题总体策略

Strategy analysis focuses on defining the future and transition states needed to address the business need, and the work required is defined both by that need and the scope of the solution space.

Business case 定义商业论证的过程即为战略分析

Strategy analysis is an ongoing activity that assesses any changes in that need, in its context, or any new information that may indicate that an adjustment to the change strategy may be required.
提出 business need，然后通过分析后明确 scope，接着再进行需求分析和方案设计，最后对方案进行评估。

Figure 6.0.1: Business Analysis Value Spectrum



6.1 Analyze Current State 现状分析 as-is

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:
Elicitation Results: used to define and understand the current state.
Needs: the problem or opportunity faced by an enterprise or organization often launches business analysis work to better understand these needs.

Outputs:

Current State Description: the context of the enterprise's scope, capabilities, resources, performance, culture, dependencies, infrastructure, external influences, and significant relationships between these elements.现状分析，定义问题，以文字/图表等形式输出。

Business Requirements: The problem, opportunity, or constraint which is defined based on an understanding of the current state. 从组织/企业角度定义问题/需求；商业需求，主要是一个粗略的用户的期望和分析出来的结果。

1. Business Needs: business needs are the problems opportunities of strategic importance faced by the enterprise. A business need may be identified at many different levels of the enterprise:

From the top-down: a strategic goal that needs to be achieved.组织高层（战略目标），明确需达成的战略目标。

From the bottom-up: a problem with the current state of a process, function or system.自下而上，从现象/流程等发现并总结商业需求

From middle management: a manager needs additional information to make sound decisions or must perform additional functions to meet business objectives.中间层，管理上的需求，如决策

From external drivers: customer demand or business competition in the marketplace.外部 客户需求/技术升级/合规要求等 外部客户或竞争对手的行动

The definition of business needs is frequently the most critical step in any business analysis effort.

A solution to a set of business needs must have the potential to generate benefits for the enterprise or its stakeholders, or avoid losses that would otherwise occur.Factors the business analyst may consider include:

Adverse impacts the problem is causing within the organization and quantify those impacts(eg. Potential lost revenue, inefficiencies, dissatisfied customers, low employee morale).

Expected benefits from any potential solution (eg. Increased revenue, reduced costs, increased market share).

How quickly the problem could potentially be resolved or the opportunity could be taken, and the cost of doing nothing.

The underlying source of the problem.

2. Organizational Structure and Culture: organizational structure defines the formal relationships between people working in the enterprise. Organization culture is the beliefs, values, and norms shared by the members of an organization.

3. Capabilities and Processes: Capabilities processes describe the activities an enterprise performs. They also include the knowledge the enterprise has, the products and services it provides, the function it supports, and the methods it uses to make decisions.

A capability-centric view of the enterprise when looking for innovative solutions that combine existing capabilities to produce a new outcome.

Acapability-based view is useful in this situation because capabilities are generally organized in a functional hierarchy with relationships to other capabilities, making it easier to identify any gaps.能力提升

A process-centric view of the enterprise when looking for ways to improve the performance of current activities. Aprocess-based view is useful in this situation because processes are organized in an end-to-end fashion across the enterprise to deliver to its customers, making it easier to ensure that a change does in fact increase performance.流程提升

4. Technology and Infrastructure: The infrastructure describes the enterprise’ s environment with respect to physical components and capabilities. The infrastructure can include components such as computer hardware, physical plants, and logistics, as well as their operation and upkeep.

5. Policies: policies define the scope of decision making at different levels of an enterprise. They generally address routine operations rather than strategic change.

6. Business Architecture: Business analysts must understand how all of these elements of the current state fit together and support one another in order to recommend changes that will be effective.

7. Internal Assets: business analysts identify enterprise assets used in the current state. Resources can be tangible or intangible, such as financial resources, patents, reputation, and brand names.

External Influences: sources of external influence include:

Industry Structure: this is a particularly important influencer if a proposed change involves entering a new industry.产业结构

Competitors 竞争对手

Customers 客户

Suppliers 供应商

Political and regulatory environment 政策法规环境

Technology 技术环境

Macroeconomic factors 宏观经济因素

6.2 Define Future State 定义将来状态（目标） to-be

Determine the set of necessary conditions to meet the business need.

Include visual models and text to clearly show the scope boundaries and details.高级层的，方向性的范围性的定义，对未来的描述也是为了能让所有人目标一致。

As with current state analysis, the purpose of future state analysis is not to create a comprehensive description of the outcome at a level of detail that will

directly support implementation. The future state will be defined at a level of detail that:

1. Allows for competing strategies to achieve the future state to be identified and assessed,
2. Provides a clear definition of the outcomes that will satisfy the business needs,
3. Details the scope of the solution space,
4. Allows for value associated with the future state to be assessed,
5. Enables consensus to be achieved among key stakeholders.

Inputs:

Business Requirements: the problems, opportunities, or constraints that the future state will address.

Outputs:

Business Objectives: The desired direction that the business wishes to pursue in order to achieve the future state.将来状态目标（定量，符合 smart 原则）明确目标，进行描述，衡量价值

Future State Description: Boundaries of the proposed new, removed, and modified components of the enterprise and the potential value expected from the future state.

Potential Value: The value that may be realized by implementing the proposed future state.

1. Business Goals（定性描述） and Objectives: a common test for assessing objectives is to ensure that they are SMART:

Specific: describing something that has an observable outcomes,

Measures: tracking and measuring the outcome,

Achievable: testing the feasibility of the effort,

Relevant: aligning with the enterprise’ s vision, mission, and goals,

Time-bounded: defining a time frame that is consistent with the need.

2. Scope of solution space: defines which kinds of options will be considered when investigating possible solutions. If multiple future states can meets the business needs, goals and objectives, it will be necessary to determine which ones will be considered.从那些途径可解决问题，解决范围主要从商业需求/远景/目标等方面考虑

3. Constraints 限制: constraints describe aspects of the current state, aspects of the planned future state that may not be changed by the solution, or mandatory elements of the design.制约因素，特别是预算/资源/政策/时间等方面因素

4. Organizational Structure and Culture: Elements of the organization structure and culture may need to change to support the future state. Describing the components of the future state provides insight into potential conflicts, impact, and limits.组织架构文化

5. Capabilities and Processes: New or changed capabilities and processes will be needed to deliver new products or services, to comply with new regulations, or to improve the performance of the enterprise.

6. Technology and Infrastructure :

7. Policies :

8. Business Architecture :

9. Internal Assets :

10. Identify Assumptions :

11. Potential Value :

6.3 Assess Risks 风险评估衡量

Understand the undesirable consequences of internal and external forces on the enterprise during a transition to, or once in, the future state.识别的理解潜在影响，对其进行应对措施制定　分析风险&管理风险

Inputs:

Business Objectives: describing the desired direction needed to achieve the future state can be used to identify and discuss potential risks.

Elicitation Results (confirmed): an understanding of what the various stakeholders perceive as risks to the realization of the desired future state.

Influences: factors inside of the enterprise (internal) and factors outside of the enterprise(external) which will impact the realization of the desired future state.

Potential Value: describing the value to be realized by implementing the proposed future state provides a benchmark against which risk can be assessed.

Requirements (prioritized): depending on their priority, requirements will influence the risks to be defined and understood as part of solution realization.

Outputs:

Risk analysis Results: An understanding of the risks associated with achieving the future state, and the mitigation strategies which will be used to prevent those risks, reduce the impact of the risk, or reduce the likelihood of the risk occurring.风险登记表等形式展现

1. Unknowns: Business analysts collaborate with stakeholders to assess risks based on current understanding. Even when it is not possible to know all that will occur as a result of a particular change strategy, it is still possible to estimate the impact of unknown or uncertain events or conditions occurring.对未知的可能进行识别

2. Constraints, Assumptions, and Dependencies: can be analyzed for risks and sometimes should be managed as risks themselves.关注约束，假设和依赖条件

3. Negative Impact to Value: Business analysts clearly identify and express each risk and estimate is likelihood and impact to determine the level of risk.不确定性，影响程度有多大

Risk Tolerance: in general, there are three broad ways of describing attribute toward risk:

Risk-aversion: an unwillingness to accept uncertainty; there may be a preference to either avoid a course of action which carries too high a level if risk, or to invest more to reduce the risks.规避风险

Neutrality: some level of risk is acceptable, provided the course of action does not result in a loss even if the risks occur.

Risk-seeking: a willingness to accept or even take on more risk in return for a higher potential value.（opportunity）

4. Recommendation: the recommendation usually falls into one of the following categories:

pursue the benefits of a change regardless of the risk;

pursue the benefits of a change while investing in reducing risk;

seek out ways to increase the benefits of a change to outweigh the risk;

Identify ways to manage and optimize opportunities;

do not pursue the benefits of a change.

6.4 Define Change Strategy 定义如何解决问题（战术定义）

Develop and assess alternative approaches to the change, and then select the recommended approach.再分析现状和定义将来要达成的目标后，需结合风险评估的结果来规划我们怎么做。

Might be presented as part of a business case, Statement of work(SOW), an enterprise's strategic plan, or in other formats.

Usually involves identifying several strategies and selecting the most appropriate one.

Developing a change strategy is simpler when the current state and the future state are already defined because they provide some context for the change.

Inputs:

Current State Description: provides context about the current state, and includes assessments of internal and external influences to the enterprise under consideration.

Future State Description: provides context about the desired future state.

Risk Analysis Results: describe identified risks and exposure of each risk.

Stakeholder Engagement Approach: understanding stakeholders' communication and collaboration needs can help identify change-related activities that need to be included as part of the change strategy.

Outputs:

Change Strategy: The approach that the organization will follow to guide change. 总体策略 战略规划

Solution Scope: The solution scope that will be achieved through execution of the change strategy. 解决方案的范围

1. Solution Scope: the solution scope defines the boundaries of the solution, and is described in enough detail to enable stakeholders to understand which new capabilities the change will deliver.解决方案范围/最终交付产品所涉及的范围

2. Gap Analysis: a gap analysis identifies the difference between current state and future state capabilities. To perform gap analysis, both current state and future state should be defined.

3. Enterprise Readiness Assessment: business analysts analyze the enterprise to assess its capacity to make the change and to sustain the change in the future state. 组织层面对不同解决方案的接受程度/评估

4. Change Strategy: a change strategy is a high-level plan of key activities and events that will be used to transform the enterprise from the current state to future state.

5. Transition States and Release Planning: in may cases, the future state will need to be achieved over time rather than through a single change, meaning that the enterprise will have to operate in one or more transition states. Release planning is concerned with determining which requirements to include in each release, phase, or iteration of the change.分阶段/迭代方式　敏捷提倡的持续交付

7 Requirement Analysis & Design Definition

Structure and organize requirements discovered during elicitation activities, specify and model requirements and designs, validate and verify information, identify solution options that meet business needs, and estimate the potential value that could be realized for each solution option.

The main difference between requirements and designs is in how they are used and by whom. One person’ s designs may be another person’ s requirements.

7.1 Specify & Model Requirements 需求分析，对需求定义说明

Analyze, synthesize, and refine elicitation results into requirements and designs.Specify and model requirements describes the practices for analyzing elicitation results and creating representations of those results.分析 综合 提炼挖掘结果

When the focus of the specifying and modeling activity is on understanding the need, the outputs are referred to as requirements. When the focus of the specifying and modeling activity is on a solution, the outputs are referred to as designs.

Inputs:

Elicitation Results (any state): modeling can begin with any elicitation result and may lead to the need for more elicitation to clarify or expand upon requirements. Elicitation and modeling may occur sequentially, iteratively, or concurrently.做需求分析的原材料

Outputs:

Requirements (specified and modelled): Any combination of requirements and/or designs in the form of text, matrices, and diagrams.

1. Model Requirements: A model is a descriptive and visual way to convey information to a specific audience in order to support analysis, communication, and understanding. Business analysts choose from one or more of te following modelling formats:

Matrices: a matrix is used when the business analyst is modelling a requirement or set of requirements that have a complex but uniform structure, which can be broken down into elements that apply to every entry in the table.

Diagrams: a diagram is a visual, often pictorial, representation of a requirement or set of requirements.

Model categories can include:

People and Roles: models represent organization, groups of people, roles, and their relationships within an enterprise and to a solution. Techniques used include: Organizational Modelling, Roles and Permissions Matrix, and Stakeholder List, Map, or Personas.

Rationale: models represent the ‘why’ of a change. Techniques used include: Decision Modelling, Scope Modelling, Business Model Canvas, Root Cause Scenarios, Business Rules Analysis.

Activity Flow: models represent a sequence of actions, events, or a course that may be taken. Techniques used include: Process Modelling, Use Cases and Scenarios, User Stories.

Capability: models focus on features or functions of an enterprise or a solution. Techniques used include: Business Capability Analysis, Functional Decomposition, Prototyping.

Data and Information: models represent the characteristics and the exchange of information within an enterprise or a solution. Techniques used include: Data Dictionary, Data Flow Diagrams, Data Modelling, Glossary, State Modelling, interface Analysis.

2. Analyze Requirements: the level of decomposition required, and the level of detail to be specified, varies depending on the knowledge and understanding of the stakeholders, the potential for misunderstanding or miscommunication, organizational standards, and contractual or regulatory obligations, among other factors.

3. Represent Requirements and Attributes: Requirements should be explicitly represented and should include enough detail such that they exhibit the characteristics of requirements and designs quality. Various attributes can be specific for each requirement or set of requirements.

4. Implement the Appropriate Levels of Abstraction: the level of abstraction of a requirement varies based on the type of requirement and audience for the requirement.

7.2 Verify Requirements 质量审查 需求质量确认

Ensure that requirements and designs specifications and models meet quality standards and are usable for the purpose they serve.

Constitutes a check by the business analyst and key stakeholders to determine that the requirements and designs are ready for validation,and provides the information needed for further work to be performed.

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

Inputs:

Requirements (specified and modelled): any requirement, design, or set of those may be verified to ensure that text is well structured and that matrices and modelling notation are used correctly.

Outputs:

Requirements (verified): A set of requirements or designs that is of sufficient quality to be used as a basis for further work.

1. Characteristics of Requirements and Designs Quality: quality requirements exhibit many of the following characteristics:

Atomic: self-contained and capable of being understand independently of other requirements or designs.原子性 一个需求讲一个事情，不可再分割

Complete: enough to guide further work and at the appropriate level of detail for work to continue.完整性

Consistent: aligned with the identified needs of the stakeholders and not conflicting with other requirements.一致性

Concise: contains no extraneous and unnecessary content.简洁性

Feasible: reasonable and possible within the agreed-upon risk, schedule, and budget, or considered feasible enough to investigate further through experiments or prototypes.可行性

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.清晰性

Testable: able to verify that the requirement or design has been fulfilled. Acceptable levels of verifying fulfillment depend on the level of abstraction of the requirement or design.可试验

Prioritized: ranked, grouped, or negotiated in terms of importance and value against all other requirements.优先级

Understandable: represented using common terminology of the audience.易懂性

2. Verification Activities: Verification activities are typically performed iteratively throughout the requirements analysis process.

3. Checklists: checklists are used for quality control when verifying requirements and designs.

7.3 Validate Requirements 需求验证

Ensure that all requirements and designs align to the business requirements and support the delivery of needed value.需求可满足目标并实现价值（解决方案范围内）

Requirements validation is an ongoing process to ensure that stakeholder, solution, and transition requirements align to the business requirements and that the designs satisfy the requirements.

The overall goal of implementing the requirements is to achieve the stakeholders' desired future state.

Stakeholders have different, conflicting needs and expectations that may be exposed through the validation process.

Inputs:

Requirements (specified and modelled): any types of requirements and designs can be validated. Validation activities may begin before requirements are completely verified. However, validation activities cannot be completed before requirements are completely verified.

Outputs:

Requirements (validated): Validated requirements and designs are those that can be demonstrated to deliver benefit to stakeholders and align with the business goals and objectives of the change.经过确认的需求，保证需求有业务价值，并在解决方案范围内

If a requirement or design cannot be validated, it either does not benefit the organization, does not fall within the solution scope, or both.

1. Identify Assumptions: if an organization is launching an unprecedented product or service, it may be necessary to make assumptions about customer or stakeholder response, as there are mo similar previous experiences on which to rely.确认需求有足够的价值

2. Define Measurable Evaluation Criteria: Business analysts define the evaluation criteria that will be used to evaluate how successful the change has been after the solution is implemented. Baseline metrics might be established based on the current state. Target metrics can be developed to reflect the achievement of the business objectives or some other measurement of success.

3. Evaluate Alignment with Solution Scope: a requirement that does not deliver benefit to a stakeholder is a strong candidate for elimination. 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.需求不一致，则要不就是未来状态必须重新定义且解决方案范围变更，要么就是需求脱离了解决方案的范围。

7.4 Define Requirements Architecture 需求架构/需求交付物 需求以什么样的形式输出 输出文档/文档内容/内容之间的关联关系

Ensure the requirements collectively support one another to fully achieve the objectives.

Requirements architecture is the structure of all of the requirements of a change.

Fits the individual models and specifications together to ensure that all of the requirements form a single whole that supports the overall business objectives and produces a useful outcome for stakeholders.不同干系人对应不同需求结构，不同干系人对应不同信息需求，输出内容完整覆盖解决范围。

Inputs:

Information Management Approach: defines how the business analysis information (including requirements and models) will be stored and accessed.不同干系人的需求需要

Requirements (any state): every requirement should be stated once, and only once, and incorporated into the requirements architecture so that the entire set may be evaluated for completeness.

Solution Scope: must be considered to ensure the requirements architecture is aligned with the boundaries of the desired solution.解决方案范围

Outputs:

Requirements Architecture: Assumptions and constraints will limit potential solution options and will be monitored for potential changes.需求结构

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. Examples of viewpoints include: business process models; data models ad information; user interactions, including use cases and/or user experience; audit and security; business models.需求的呈现方式/形式
Viewpoint：输出的视角/模板/模板结构
Views：视角对应的具体内容 requirements designs

2. Template Architectures: An architectural framework is a collection of viewpoints that is standard across an industry, sector, or organization.

3. Completeness: an architecture helps ensure that a set of requirements is complete. Structuring requirements according to different viewpoints helps ensure this completeness.

4. Relate and Verify Requirements Relationships: Requirements may be related to each other in several ways when defining the requirements architecture. Business analysts examine each relationship to ensure that the relationships satisfy the following quality criteria:

Defined: there is a relationship and the type of the relationship is described.

Necessary: the relationship is necessary for understanding the requirements holistically.

Correct: the elements do have the relationship described.

Unambiguous: there are no relationships that link elements in two different and conflicting ways.

Consistent: relationships are described in the same way, using the same set of standard descriptions as defined in the viewpoints.

5. Business Analysis Information Architecture: the structure of the business analysis information is also an information architecture. The information architecture is a component of the requirements architecture because it describes how all of the business analysis information for a change relates.

7.5 Define Design Options 针对需求考虑如何实现，有哪些备选方案

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.

Each design option represents a way to satisfy a set of requirements. Design options exist at a lower than the change strategy, and are tactical rather than strategic.

Inputs:

Change Strategy: describe the approach that will be followed to transition to the future state. This may have some impact on design decisions in terms of what is feasible or possible.宏观策略

Requirements (validated, prioritized): only validated requirements are considered in design options. Knowing the requirement priorities aids in the suggestion of reasonable design options. Requirements with the highest priorities might deserve more weight in choosing solution components to best meet them as compared to lower priority requirements.需满足的需求

Requirements Architecture: the full set of requirements and their relationships is important for defining design options that can address the holistic set of requirements.需求结构　了解需求间的关联关系 有可能相关联的需求需要再同一个 design 中解决

Outputs:

Design Options: Describe various ways to satisfy one or more needs in a context.根据需求了解有哪些备选方案/设计选择

They may include solution approach, potential improvement opportunities provided by the option, and the components that define the option.

1. Define Solution Approaches: describe whether solution components will be created or purchased, or some combination of both. Solution approaches include:

Create: solution components are assembled, constructed, or developed by experts as a direct response to a set of requirements.

Purchase: the requirements and design options have enough detail to make a recommendation about which solution to purchase.

Combination of both: Design options may include a combination of both creation and purchase of components.

2. Identify Improvement Opportunities: some common examples of opportunities include:

Increase Efficiencies: automate or simplify the work people perform by re-engineering or sharing processes, changing responsibilities, or outsourcing.

Improve Access to Information: provide greater amounts of information to staff who interface directly or indirectly with customers, thereby reducing the need for specialists.

Identify Additional Capabilities: highlight capabilities that have the potential to provide future value and can be supported by the solution.

3. Requirements Allocation: requirements allocation is the process of assigning requirements to solution components and releases to best achieve the objectives. Allocation is supported by assessing the trade-offs between alternatives in order to maximize benefits and minimize costs.需求分配 保证每个需求在解决方案中都得到考虑和解决　需求分配到解决方案中，需求均被考虑到

4. Describe Design Options: design options are investigated and developed while considering the desired future state, and in order to ensure the design option is valid.

7.6 Analyze Potential Value & Recommend Solution

Estimate the potential value for each design option and to establish which one is most appropriate to meet the enterprise's requirements.

Value can be described in terms of finance, reputation, or even impact on the marketplace.

Depending on the reasons for the change, there may be no best option to recommend, or there may be a clear best choice.

Inputs:

Potential Value: can be used as a benchmark against which the value delivered by a design can be evaluated.

Design Options: need to be evaluated and compared to one another to recommend on option for the solution.

Outputs:

Solution Recommendation: Identifies the suggested, most appropriate solution based on an evaluation of all defined design options. The recommended solution should maximize the value provided to the enterprise.

1. **Expected Benefits:** expected benefits describe the positive value that a solution is intended to deliver to stakeholder. Benefits are often realized over a period of time.
2. **Expected Costs:** expected costs include any potential negative value associated with a solution, including the cost to acquire the solution, any negative effects it may have on stakeholders, and the cost to maintain it over time.
3. **Determine Value:** the potential value of a solution to a stakeholder is based on the benefits delivered by that solution and the associated costs. Value can be positive (benefits>costs) or negative (benefits<costs).
4. **Assess Design Options and Recommend Solution:** each design option is assessed based on the potential value it is expected to deliver. Ant any point in analyzing the design options, it may become necessary to re-evaluate the initial allocation of design elements between components. There are several factors to take into consideration: **Available Resources, Constraints on the solution, Dependencies between requirements.**

8 Solution Evaluation 解决方案评估

Assess the performance of and value delivers by a solution in use by the enterprise, and to recommend removal of barriers or constraint that prevent the full realization of the value.

While there may be some similarities to the activities performed in Strategy Analysis, or Requirements Analysis and Design Definition, an important distinction between the Solution Evaluation knowledge area and other knowledge areas is the existence of an actual solution.

Solution evaluations tasks can be performed on solution components in varying stages of development:

Prototypes or Proofs of Concepts: working but limited versions of a solution that demonstrate value.原型或概念

Pilot or Beta Releases: limited implementations or versions of a solution used in order to work through problems and understand how well it actually delivers value before fully releasing the solution.试验发布测试

Operational releases: full versions of a partial or completed solution used to achieve business objectives, execute a process, or fulfill a desired outcome. 运营环境中正式部署或使用

8.1 Measure Solution Performance

Define performance measures and use the data collected to evaluate the effectiveness of a solution in relation to the value it brings.收集解决方案使用效果相关资料　收集评估/衡量解决方案使用情况的数据或反馈

Performance may be assessed through key performance indicators(KPIs) aligned with enterprise measures, goals and objectives for a project, process performance targets, or tests for a software application.

Inputs:

Business Objectives: the measurable results that the enterprise wants to achieve. Provides a benchmark against which solution performance can be assessed.

Implemented Solution (external): a solution (or component of a solution) that exists in some form. It may be an operating solution, a prototype, or a pilot or beta solution.完整的/部分完成的实施解决方案（外部输入），非 BA 输出

Outputs:

Solution Performance Measures: Measures that provide information on how well the solution is performing or potentially could perform.收集的相关数据信息

1. **Define Solution Performance Measures:** Business analysts ensure that any existing performance measures are accurate, relevant and elicit any additional performance measures identified by stakeholders. Solution performance measures may be quantitative, qualitative, or both, depending on the value being measured.

Quantitative Measures: are numerical, countable, or finite, usually involving amounts, quantities, or rates.

Qualitative Measures: are subjective and c an include attitudes, perceptions, and any other subjective response. Customers, users, and others involved in the operation of a solution have perceptions of how well the solution is meeting the need.

2. **Validate Performance Measures:** Validating performance measures helps to ensure that the assessment of solution performance is useful. Business analysts validate the performance measures and any influencing criteria with stakeholders.
3. **Collect Performance Measures:** when collecting performance measures, business analysts consider:

a) **Volume or Sample Size:** a sample size is too small might skew the results and lead to inaccurate conclusions. Larger samples sizes may be more desirable, but may not be practical to obtain.数据规模

b) **Frequency and Timing:** the frequency and timing with which measurements are taken may have an effect on the outcome.收集频率/时间点

c) **Currency:** measurements taken more recently tend to be more representative than older data.当前性

8.2 Analyze Performance Measure 分析 8.1 所收集的内容/资料

Provide insights into the performance of a solution in relation to the value it brings.

Interpret and synthesize the measures collected to drive meaning.

Require a thorough understanding of the potential value that stakeholders hope to achieve with the solution.

To assist in the analysis, variables such as the goals and objectives of the enterprise, key performance indicators, the level of risk of the solution, the risk tolerance of both stakeholders and the enterprise, and other stated targets are considered.

Inputs:

Potential Value: described the value that may be realized by implementing the proposed future state. It can be used as a benchmark against which solution performance can be evaluated.同定义的期望价值进行比较

Solution Performance Measures: measures and provides information on how well the solution is performing or potentially could perform.收集的解决方案的绩效数据

Outputs:

Solution Performance Analysis: Results of the analysis of measurements collected and recommendations to solve performance gaps and leverage opportunities to improve value.解决方案与交付价值比较结果

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. If the measures are not sufficient to help stakeholders determine solution value, business analysts either collect more measurements or treat the lack of measures as a solution risk.解决方案的绩效数据，期望价值
2. **Risks:** Performance measure may uncover new risks to solution performance and to the enterprise. There risks are identified and managed like any other risks.
3. **Trends:** when analyzing performance data, business analysts consider the time period when the data was collected to guard against anomalies and skewed trends.
4. **Accuracy:** the accuracy of performance measures is essential to the validity of their analysis. To be considered accurate and reliable, the results of performance measures should be reproducible and repeatable.
5. **Performance Variances:** the difference between expected and actual performance represents a variance that is considered when analyzing solution performance. Root cause analysis may be necessary to determine the underlying causes of significant variances within a solution.

8.3 Assess Solution Limitations 评估解决方案的限制因素（内部因素）

Determine the factors internal to the solution that restrict the full realization of value.

Identify the root causes for under-performing and in effective solution/solution components.

Closely linked to Assess Enterprise Limitations task, may be performed concurrently.

May be performed at any point during solution life cycle.

Inputs:

Implemented Solution (external): a solution that exists. The solution may or may not be in operational use; it may be prototype. The solution must be in use in some form in order to be evaluated.

Solution Performance Analysis: results of the analysis of measurements collected and recommendations to solve for performance gaps and leverage opportunities to improve value.

Outputs:

Solution Limitation: A description of the current limitations of the solution including constraints and defects.

1. **Identify Internal Solution Component Dependencies:** Assessment of the overall performance of the solution or its components is performed in the tasks **Measure Solution Performance** and **Analyze Performance Measures**.
2. **Investigate Solution Problems:** when it is determined that the solution is consistently or repeatedly producing ineffective outputs, problem analysis is performed in order to identify the source of the problem. Problems may be indicated by an inability to meet a stated goal, objective, or requirement, or may be a failure to realize a benefit that wad projected during the tasks **Define Change Strategy** or **Recommend Actions to Increase Solution Value**.
3. **Impact Assessment:** This requires determining the severity of the problems, the probability of the re-occurrence of the problem, the impact on the business operations, and the capacity of the business to absorb the impact.

8.4 Assess Enterprise Limitations 评估组织的限制因素（外部因素）

Determine how factors external to the solution are restricting value realization.

Enterprise limitation may include factors such as culture, operations, technical components, stakeholder interests, or reporting structures.

May be performed at any point during solution life cycle.

Inputs:

Current State Description: the current internal environment of the solution including the environmental, cultural, and internal factors influencing the solution limitations.

Implemented (or constructed) Solution (external): a solution that exists. The solution may or may not be in operational use; it may be a prototype. The solution must be in use in some form in order to be evaluated.

Solution Performance Analysis: results of the analysis of measurements collected and recommendations to solve performance gaps and leverage opportunities to improve value.

Outputs:

Enterprise Limitation: A description of the current limitations of the enterprise including how the solution performance is impacting the enterprise.

1. **Enterprise Culture Assessment:** enterprise culture is defined as the deeply rooted beliefs, values, and norms shared by the members of an enterprise. Business analysts perform cultural assessments to: identify whether or not stakeholders understand the reasons why a solution exists; ascertain whether or not the stakeholders view the solution as something beneficial are supportive of the change; determine of and what cultural changes are required to better realize value from a solution.
2. **Stakeholder Impact Analysis:** provides insight into how the solution affects a particular stakeholder group. Business analysts consider:
    a) **Functions**: includes inputs a stakeholder provides into the process, how the stakeholder uses the solution to execute the process, and what outputs the stakeholder receives from the process.
    b) **Locations:** the geographic location of the stakeholders interacting with the solution.
    c) **Concerns:** include the use of the solution, the perceptions of the value of the solution, and the impact the solution has on a stakeholder' s ability to perform necessary functions.
3. **Organization Structure Changes:** the use of a solution and the ability to adopt a change can be enabled or blocked by formal and informal relationships among stakeholders.
4. **Operational Assessment:** the operational assessment is performed to determine of an enterprise is able to adapt to or effectively use a solution.

8.5 Recommend Actions to Increase Solution Value 寻求改进措施并提出解决方案价值

Understand the factors that create differences between potential value and actual value, and to recommend a course of action to align them.

Recommendations generally identify how a solution should be replaced, retired, or enhanced.

May include recommendations to adjust the organization to allow for maximum solution performance and value realization.

The various tasks in the **Solution Evaluation** knowledge area help to measure, analyze, and determine causes of unacceptable solution performance.

Inputs:

Enterprise Limitation: a description of the current limitations of the enterprise including how the solution performance is impacting the enterprise.

Solution Limitation: a description of the current limitations of the solution including constraints and defects.

Outputs:

Recommended Actions: Recommendation of what should be done to improve the value of the solution within the enterprise.

1. **Adjust Solution Performance Measures:** in some cases, the performance of the solution is considered acceptable but may not support the fulfillment of business goals and objectives.

2. Recommendations: some common examples of recommendations that a business analyst may make include:

a) **Do Nothing:** is usually recommended when the value of a change is low relative to the effort required to make the change or when the risks of change significantly outweigh the risks of remaining in the current state.

b) **Organization Change:** is a process for managing attitudes about, perceptions of, and participation in the change relate to the solution. Possible recommendations that relate to organizational change include: automating or simplifying the work people perform; improving access to information.

c) **Reduce Complexity of Interfaces:** interfaces are needed whenever work is transferred between systems or between people.降低复杂性

d) **Eliminate Redundancy:** different stakeholder groups may have common needs that can be met with a single solution, reducing the cost of implementation.排除冗余

e) **Avoid Waste:** the aim of avoiding waste is to completely remove those activities that do not add value and minimize those activities that do not contribute to the final product directly.避免浪费

f) **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.淘汰解决方案

g) Some additional factors that may impact the decision regarding the replacement or retirements of a solution include:

Ongoing cost versus initial investment: it is common for the existing solution to have increasing costs over time, while alternatives have a higher investment cost upfront but lower maintenance costs.持续成本初始投资

Opportunity cost: represents the potential value that could be realized by pursuing alternative courses of actions.机会成本

Necessity: most solution components have a limited lifespan, after a certain point in the life cycle it will become impractical or impossible to maintain the existing component.必须性

Sun cost: describes the money and effort already committed to an initiative. The psychological impact of sunk costs may make it difficult for stakeholders to objectively assess the rationale for replacement or elimination, as they may feel reluctant to "waste" the effort or money already invested. As this investment cannot be recovered, it is effectively irrelevant when considering future action. Decisions should be based on the future investment required and the future benefits that can be gained. 沉没成本（已花出去的钱）