Contents

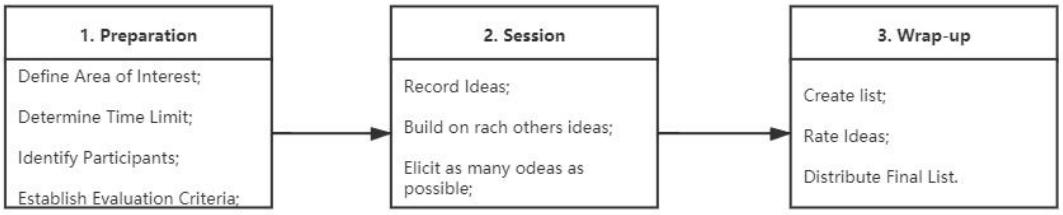
10.5 Brainstorming

Foster creative thinking about problem.

The aim of brainstorming is to produce numerous new ideas, and to derive from them themes for further analysis(Focusing on a topic or problem and then coming up with many possible solutions to it.).

Non-judgmental environment enables creative thinking.

Group participants must agree to avoid debating the ideas raised during brainstorming.



10.10 Collaborative Games

Encourage participants in an elicitation activity to collaborate in building a joint understanding of a problem or a solution.

Games typically have at least 3 steps:

Step1: an opening step, in which the participants get involved, learn the rules of the game, and start generating ideas,

Step2: the exploration step, in which participants engage with one another and look for connections between their ideas, test those ideas, and experiment with new ideas,

Step3: a closing step, in which the ideas assessed and participants work out which ideas are likely to be the most useful and productive.

Game	Description	Objective
Product Box 产品包装盒	Participants construct a box for the product as if it was being sold in a retail store.	Used to help identify features of a product that help drive interest in the marketplace.
Affinity Map 亲和图	Participants write down features on sticky notes, put them on a wall, and then move them closer to other features that appear similar in some way.	Used to help identify related or similar features or themes.
Fishbowl 金鱼缸	Participants are divided into two groups.One group of participants speaks about a topic,while the other group listens intently and documents their observations.	Used to identify hidden assumptions or perspectives.

10.18 Document Analysis

Document analysis is used to elicit business analysis information, including contextual understanding and requirements, by examining available materials that describe either the business environment or existing organizational assets.

1. **Preparation**:

When assessing source documents for analysis, business analysts consider:

Whether or not the source’ s content is relevant, current, genuine, and credible,

Whether or not the content is understandable and can be easily conveyed to stakeholders as needed,

Defining both the data to be mined(based on the classes of data needed) and the data clusters that provide items grouped by logical relationships.

2. **Document review and analysis**: 执行阶段

Conducting a detailed review of each document’ s content and recording relevant notes associated with each topic.

Identifying if any notes conflict or are duplicates.

Nothing any gaps in knowledge in which the findings about certain topics are limited. It may be necessary to perform additional research to revisits these topics, or to drill down at a sub-topic level.

3. **Record Findings**:记录结果做汇总

If the content and level of detail is appropriate for the intended audience,

And if the material should transformed into visual aids such as graphs, models, process flows, or decision tables in order to help improve understanding.

文档分析成本低；但可能信息已过时；文档作者可能不能对问题进行解答（如离职）；文档分析通常只对现状进行分析有利；可能花费大量的时间和精力。

10.21 Focus Group

A focus group is a means to elicit ideas and opinions about a specific product,service, or opportunity in an interactive group environment.

A focus group is composed of pre-qualified participants whose objective is to discuss and comment on a topic within a context. The participants share their perspectives and attitudes about a topic and discuss them in group setting.

A focus group is a form of qualitative research. The activities are similar to that of a brainstorming session, expect that a focus group is more structured and focused on the participants' perspectives concerning a specific topic. It is not a interview session conducted as as group; rather, it is a discussion during which feedback is collected on a specific subject. The session results are usually analyzed and reported as themes and perspectives rather than numerical findings.

Preparation:

1. Focus Group Objective: a clear and specific objective establishes a defined purpose for the focus group.

2. Focus Group Plan: the focus group plan ensures that all stakeholders are aware of the purpose of the focus group and agree on the expected outcomes, and that the session meets the objectives.

Purpose: creating questions that answer the objective, identifying key topics to be discussed, and recommending whether or not discussion guides will be used.

Location: identifying whether the session will be in-person or online, as well as which physical or virtual meeting place will be used.

Logistics: identifying the size and set up of the room, other facilities that may be required, public transportation options, and the time of the session.

Participants: identifying the demographics of those actively engaged in the discussion, if any observers are required, and who the moderators and recorders will be.

Budget: outlining the costs of the session and ensuring that resources are allocated appropriately.

Timelines: establishing the period of time when the session or sessions will be held, as well as when any reports or analysis resulting from the focus group are expected.

Outcomes: identifying how the results will be analyzed and communicated and the intended actions based on the results.

Run:

3. Participants: a successful focus group session ha participants who are willing to both offer their insights and perspectives on a specific topic and listen to the opinions of the other participants. A focus group typically ha 6 to 12 attendees.

4. Discussion Guide: a discussion guide provides the moderator with a prepared script of specific questions and topics for discussion that meet the objective of the session. Discussion guides include the structure or framework that the moderator will follow.

5. Assign a Moderator and Recorder: The moderator is both skilled at keeping the session on track and knowledgeable about the initiative. The recorder takes notes to ensure the participant's opinions are accurately recorded.

6. Conduct the Focus Group: the moderator guides the group's discussion, follows a prepared script of specific issues, and ensures that the objectives are met.

After:

7. After the Focus Group: the results of the focus group are transcribed as soon as possible after the session has ended. The business analyst analyzes and documents the participants' agreements and disagreements, looks for trends in the responses, and creates a report that summarizes the results.

10.25 Interviews

A systematic approach designed to elicit business analysis information from a person or group of people by talking to the interviewees,asking relevant questions, and documenting the responses. May be conducted one-on-one or in a group.
Basic types:
Structured interview: the interviewer has predefined set of questions.需准备好一系列访谈所需问题
Unstructured interview: the interviewer does not have a predetermined format or order of questions. Questions may vary based on interviewee responses and interactions.主动权交给采访人以获得更多信息

1. **Interview Goal:**
   The overall purpose of performing a set of interviews.
   The individual goals for each interview.
2. **Potential Interviewees:**
   Identified with the help of the project manager, sponsors, and other stakeholders, based on the goals for the interview.
3. **Interview Questions:**
   Open-ended questions are good to allow the interviewee to provide information of which the interviewer may be unaware.
   Closed questions can be used to clarify or confirm a previous answer.
   Organize the questions based on priority and significance.
   Compile an interview guide that includes interview questions, proposed timing, and follow-up questions, if required.
4. **Interview Logistics:**
   Location, whether to use scribe, whether to pre-distribute questions, whether interview results will be confirmed.
5. **Interview Flow:**
   Opening: describe purpose, address initial concerns, explain how information will be recorded and shared;
   During the interview: maintain focus, consider interviewee participation, consider multiple meetings, manage concerns, practice active listening, take notes or record properly.
   Closing: asking for overlooked areas, provide contact information for follow-ups, summarize the session, outline process of using the interview results, thank interviewees for their time.
6. **Interview Follow-up:**
   Organize information and confirm results as soon as possible.

10.31 Observation

Elicit information by viewing and understanding activities and their context.

Also known as job shadowing, involves examining a work activity firsthand as it is performed.

Can be conducted in either natural work environments or specially constructed laboratory conditions.

Basic Approaches:

Active/Noticeable: which observing an activity the observer asks any questions as they arise. 观察过程中随时打断（主动） 观察 现场观察（操作流程等）

Passive/Unnoticeable: during the activity the observer does not interrupt the work.观察过程中不会打断（被动）

Prepare for observation	**Conduct observation session**	**Confirm and present results**
Establish objectives, Plan observation approach	Explain objectives, Reassure non-judgmental attitude, Inform the participant can stop the observation at any time, Recommend sharing of reason and concerns, Watch attentively, Record what is seen, Ask probing questions.	Ask questions, Summarize notes and data, Identify similarities,differences,and trend, Aggregate findings, Communicate needs and opportunities for improvement.

10.36 Prototyping

Used to elicit and validate stakeholder needs through an iterative process that creates a model or design of requirements. It is also used to optimize user experience, to evaluate design options, and as a basis for development of the final business solution.

Can be non-working models, working representations, or digital depictions of a solution or a proposed product.

Can be used to mock up websites, serve as a partially working construct of the product, or describe processes through a series of diagrams (such as workflow).

Data prototyping can be used for data cleansing and transformation.

Prototyping approach:

Throw-away: generated with simple tools (such as paper and pencil, a whiteboard, or software) to serve the goal of uncovering and clarifying requirements.

Evolutionary or functional: created to extend initial requirements into a functioning solution.

Prototyping Examples:

Proof of principle or proof of concept: validates design;

Form study prototype: explores basic size, look and feel;

Usability prototype: tests end user interaction;

Visual prototype: tests visual aspects of the solution;

Functional prototype (a working model): tests software functionality, quality and workflow.

Prototyping methods:

Storyboarding: visually and textually detail the sequence of activities by summing up different user interactions with the solution or enterprise. 故事画板

Paper Prototyping: use paper and pencil to draft an interface or process.纸笔画的草图

Workflow modelling: depicts a sequence of operations that are performed and usually focuses solely on the human aspect.（专业工具软件）

Simulation: demonstrate solutions or components of a solution.

10.37 Reviews

Used to evaluate the content of a work product.

Dimensions of different types of reviews:

Objectives: the purpose of the review;

Techniques: a formal or informal way to perform the review;

Participants: who should take part in the review activity.

The work product to be reviewed may be a package of several deliverables, a single deliverable, a portion of a deliverable, or work in process.

Review can include: an overview of work product and review objectives, checklists and reference materials, reviewing the work product and documenting findings, and verifying any rework.

Elements:

1. Purpose: Are clearly communicated to all participants prior to the review.
2. Techniques:
   (1) **Inspection:** a formal technique that includes and overview of the work product, individual review, logging the defects, team consolidation of defects, and follow-up to ensure changes were made.逐条对需审查内容进行回顾
   (2) **Formal Walkthrough (also known as team review)**: a formal technique that uses the individual review and team consolidation activities often seen in inspection.巡检，走查（正式），一群人共同参与需求评审会
   (3) **Single Issue Review (also known as Technique Review)**: a formal technique focused on either one issue or a standard in which reviewers perform a careful examination of the work product prior to a joint review session held to resolve the matter in focus.单一问题讨论
   (4) **Informal Walkthrough:** an informal technique in which the business analyst runs through the work product in its draft state and solicits feedback.非正式评审会
   (5) **Desk Check:** an informal technique in which a reviewer who has not been involved in the creation of the work product provides verbal or written feedback.桌上检查
   (6) **Pass Around:** an informal technique in which multiple reviewers provide verbal or written feedback. 通过邮件等方式非正式检查
   (7) **Ad hoc:** an informal technique in which the business analyst seeks informal review or assistance from a peer.临时性审查
3. Participants: depend on objective, technique and organizational standards.

10.45 Survey or Questionnaire

Elicit business analysis information-including information about customers, products, work practices, and attitudes - from a group of people in a structured way and in a relatively short period of time.

The questions can be submitted in written form or can be administered in person, over the telephone, or using technology that can record responses.

Types of questions:

Closed questions - responses are easier to analyze as they can be tied to numerical coefficients.

Open-ended questions - may provide more detail and a wider range of responses, more difficult to quantify and summarize as they often included qualitative, rather than quantitative, language.

Prepare	**Distribute**	**Document results**
● Define objective, ● Define target survey group, ● Choose survey type, ● Select sample group, ● Select distribution and collection methods, ● Set target level and timeline for response, ● Determine if individual interviews are required(pre-survey, post-survey), ● Write survey questions, ● Test and fine-tune survey.	● Communicate objective, ● Arrangements for results usage and confidentially or anonymity.	● Collate responses, ● Summarize results, ● Evaluate details and identify themes, ● Formulate categories for data coding, ● Break down data into measurable increments.

10.50 Workshops

Bring stakeholders together in order to collaborate on achieving a predefined goal.将干系人聚集到一起进行协作。针对某一目的达成一致。

A Workshop is a focused event attended by key stakeholders and subject matter experts (SMEs) for a concentrated period of time.

A workshop may be held for different purposes including planning, analysis, design, scoping, requirements elicitation, modeling, or any combination of these.

Workshops can promote trust, mutual understanding, and strong communication among the stakeholders and produce deliverables that structure and guide future work efforts.

Prepare	**Conduct**	**Post workshop wrap-up**
● Define purpose & desired outcomes, ● Identify stakeholders, ● Identify facilitator and scribe. ● Create agenda. ● Determine documentation means. ● Schedule session and invite participants. ● Arrange logistics and equipment. ● Send materials. ● Conduct pre-workshop interviews if required.	● State purpose & desired outcomes. ● Establish agreed-upon ground rules. ● Maintain focus	● Follow up on open action items. ● Complete documentation and distribute.

Roles: Sponsor, facilitator, scribe, timekeeper, participants

Ground Rules:

Respect others' opinions.

Everyone is expected to contribute.

Limit off-topic discussion.

Discuss the issues, mot the people.

Agree on how decisions are made.

Analysis: Problem

Problem Identification:

10.4 Benchmarking and Market Analysis

Benchmark studies are conducted to compare organizational practices against the best-in-class practices.

Market analysis involves researching customers in order to determine the products and services that they need or want, the factors that influence their decisions to purchase, and the competitors that exists in the market.

10.6 Business Capability Analysis

Business capability analysis describe what an enterprise, or part of an enterprise, is able to do.

Business capabilities describe the ability of an enterprise to act on or transform something that helps achieve a business goal or objective.

Organizational Analysis:

Capability Analysis,
Root Cause Analysis,
Process Analysis,
Stakeholder Analysis,
Roadmap Construction

Project Analysis:

Requirements Elicitation,
Requirements Management,
Requirements Communication,
User Acceptance Testing,
Usability Testing

Professional Development:

Organizational Analysis Consulting,
Project Analysis Consulting,
Training,
Mentoring,
Templates & Resources Maintenance

Management:

Performance Management,
Resource Allocations,
Employee Development Planning.

10.8 Business Model Canvas

A business model canvas describes how an enterprise creates, delivers, and capture value for and from its customers. Shows the relationship between the organization’ s operations, finance, customers, and offerings.

A business model canvas is comprised of nine building blocks:

Key Partnerships: 重要伙伴 An effective key partnership can lead to more formalized relationship such as mergers and acquisitions.

Key Activities: 关键业务

Value-add: characteristics, features, and business activities for which the customer is willing to pay.

Non-value-add: aspects and activities for which the customer is not willing to pay.

Business non-value-add: characteristics that must be included in the offering, activities performed to meet regulatory and other needs, or costs associated with doing business, for which the customer is not willing to pay.

Key Resources:重要资源

Physical: applications, locations, and machines.

Financial: what is needed to fund a business model, such as cash and lines of credit.

Intellectual: any proprietary aspects that enable a business model ti thrive, such as knowledge, patents and copyrights, customer databases, and branding.

Human: the people needed to execute a particular business model.

Value Proposition: 价值主张 a value proposition represents what a customer is willing to exchange for having their needs met.

Customer Relationship: 客户关系维护 customer relationships are classified as customer acquisition and customer retention. The methods used in establishing and maintaining customer relationships vary depending on the level of interaction desired and the method of communication.

Channels:分销渠道 channels are the different ways an enterprise interacts with and delivers value to its customers.

Raise awareness about their offerings,
Help customers evaluate the value proposition,
Allow customers to purchase a good or service,
Help the enterprise deliver on the value proposition,
Provide support.

Customer Segments:客户区间 Customer segments group customers with common needs and attributes so that the enterprise can more effectively and efficiently address the needs of each segments. Defining and targeting distinct customer segments based on :

Different needs for each segment,
Varying profitability between segments,
Different distribution channels,
Formation and maintenance of customer relationships.

Cost Structure:成本结构 understand the type of business models, the differences in the types of costs and their impact, and where the enterprise is focusing its efforts to reduce costs.

Revenue Streams:收入结构

Revenue resulting from a one-time purchase of a good or service,
Recurring revenue from periodic payments for a good, service, or ongoing support.
Some types of revenue streams include:

Licensing or Subscription fees: the customer pays for the right to access a particular asset, either as a one-time fee or as a recurring cost.

Transaction or usage gees: the customer pays each time they use a good or service.

Sales: the customer is granted ownership rights to a specific product.
Lending, Renting, or Leasing: the customer had temporary rights to use an asset.

10.40 Root Cause Analysis

Identify and evaluate the underlying causes of a problem.

Systematic examination of a problem or situation to focus on the problem's origin as the proper point of correction rather than dealing only with its effects.
Look at people, physical, organizational causes.
Can be used for:

Reactive analysis: identifying the root causes of an occurring problem for corrective action.

Proactive analysis: identifying potential problem areas for preventive action.

Main activities:

Problem statement definition -> Data Collection -> Cause Identification -> Action identification

The Fishbone Diagram (Ishilawa or cause-and-effect diagram):

Capture issue or problem,
Draw a line,
Draw diagonal lines for categories of causes,
Draw smaller lines for deeper causes,
Brainstorm and capture causes under categories,
Analyze results,
Brainstorm potential solutions.

Five Ways:

Write the problem,
Ask "why" and capture the idea,
Repeat until the root cause is identified.
May take more or less than five questions.
Can be used alone, or as part of the fishbone technique to drill down to the root causes.

10.46 SWOT Analysis

Evaluate an organization's strengths, weaknesses, opportunities, and threats to both internal and external conditions.进行宏观的战略分析

Can be performed at any scale from the enterprise as a whole to a division, a business unit, a project, or even an individual.

	opportunities	**threats**
Strengths	SO Strategies: How can the group's strength be used to exploit potential opportunities? SO Strategies are fairly straightforward to implement.	ST Strategies: How can the group use its strengths to ward off potential threats? Can the threats be turned into opportunities?
weaknesses	WO Strategies Can the group use an opportunity to eliminate or mitigate a weakness? Does the opportunity warrant the development of new capabilities>	WT Strategies: Can the group restructure itself to avoid the threat? Should the group consider getting out of this market? WT strategies involve worst-case scenarios.

Problem Definition:

10.7 Business Cases

A business case provides a justification for a course of action based on the benefits to be realized by using the proposed solution, as compared to the cost, effort, and other considerations to acquire and live with that solution.

A business case is used to:

1. **define the need:** Need Assessment (The need is the driver for the business case. It is the relevant business goal or objective that must be met.)
2. **determine the desired outcomes:** Desired Outcomes (describe the state which should result if the need is fulfilled.),
3. **assess constraints, assumptions, and risks:** Assess Alternatives (The business case identifies and assesses various alternative solutions.

   Each alternative should be assessed in terms of :

   Scope,
   Feasibility,
   Assumptions,risks,and constraints,
   Financial analysis and value assessment.
4. **and recommend a solution:** recommended solution (The recommended solution describes the most desirable way to solve the problem or leverage the opportunity.

10.41 Scope modeling

Define limits or boundaries and place elements inside or outside those boundaries.

May show elements that are:

In-scope: the model identifies a boundary as seen from inside, as well as the elements contained by that boundary (eg. Functional decomposition).

Out-of-scope: the model identifies a boundary as seen from outside, as well as the elements that are not contained by that boundary (eg. Context diagram 环境图（系统交互图）：显示开发中系统和外部实体的交互（数据交换），可用于项目早期确定范围，包括待开发的接口。).

Both: the model identifies a boundary as seen from both sides, as well as elements on both sides of the boundary (eg. Veen diagram or use case model).

Provides basis for understanding the boundaries of :

Scope of Control: what is being analyzed, roles and responsibilities, and what is internal and external to the organization.

Scope of Need: stakeholder needs, value to be delivered, functional areas, and organizational units to be explored.

Scope of Solution: requirements met, value delivered, and impact of change.

Scope of Change: actions to be taken, stakeholders affected or involved, and events to cause or prevent.

Objectives: determine types of models to be used and select boundaries and elements.

Scope of change and context:

Elements inside the scope: how they are modified.

Elements outside the scope but relevant to the change: how they interact.

Level of detail:

A proper level of detail provides a meaningful reduction of uncertainty while preventing' analysis paralysis' at a scope definition stage.

Relationships:

Parent-child or composition-subset

Function-Responsibility

Supplier-Consumer

Cause-Effect

Emergent

Assumptions:

The scope model should include explicit statements or critical assumptions and their implications.

Scope modelling results:

Textural descriptions, diagrams, matrices.

Analysis : people/organization

10.32 Organization Modeling

Describe the roles, responsibilities and reporting structures within an organization.
An organizational model is a visual representation of the organizational unit which defines:

The boundaries of the group (who is in the group);

The formal relationships between members (who reports to whom);

The functional role for each person;

The interfaces (interaction and dependencies) between the unit and other units or stakeholders.

Type of organization models:

Functionally-oriented: based on shared skills or areas of expertise;

Market-oriented: based on serving a particular customer segment;

The matrix model: has separate managers for each functional area and for each product, service, or customer group.

Roles: an organizational unit includes a number of defined roles. Each role requires a certain set of skills and knowledge, has specific responsibilities, performs certain kinds of work, and has defined relationships with other roles in the organization.

Interfaces(interaction):

May be in the form of communication with people in other roles and work packages that the organizational unit receives from or delivers to other units.

Influences:

Organizational charts represent the formal structure of the organization.

Business analysts also identify informal lines of authority, influence, and communication which may not directly align with the formal organizational chart.

10.39 Roles & Permissions Matrix

Ensure coverage of activities by demoting responsibility, to identify roles, to discover missing roles, and to communicate results of a planned change.

A role is a label for a group of individuals who share common functions.

1. Identifying Roles

Review organizational models, job descriptions, procedure manuals, and system user guides.

Meet with stakeholders to uncover additional roles.

Look for common functions that are performed by individuals with similar needs.

2. Identifying Activities

Use *Functional Decomposition*, *Process Modelling*, and *Use Case*.

RACI Matrix (Responsible, Accountable, Consulted, Informed) & CRUD (Create, Read, Update, Delete) Matrix

3. Identifying Authorities

Consider the level of security needed and how the work flows through the process.

4. Refinements

Delegations & Inheritances 授权 & 继承

10.43 Stakeholder List, Map, or Personas

Assist in analyzing stakeholders and their characteristics. This analysis is important in ensuring that the business analyst identifies all possible sources of requirements and that the stakeholder is fully understood so decisions made regarding stakeholder engagement, collaboration, and communication are the best choices for the stakeholder and for the success of the initiative.

Stakeholder analysis involves identifying the stakeholders that may be affected by a proposed initiative or that share a common business need.

Common stakeholder characteristics:

Level of authority in the domain and organization.

Attitudes towards or interest in the change being undertaken.

Attitudes toward the business analysis work and role.

Level of decision-making authority.

Stakeholder Lists:

Apply a number of techniques (eg. Brainstorming and Interview) to generate a stakeholder list, as well as categorizing and adding structure to the list.

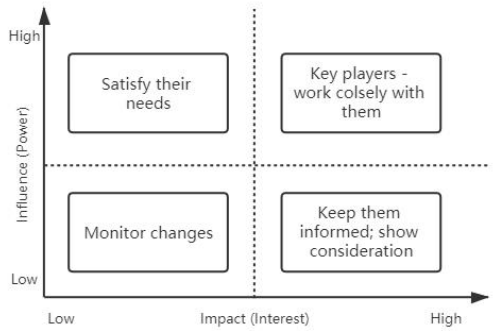
Ensure no important stakeholder or stakeholder group has been overlooked, which opens up the risk that requirements will be missed later on.

Stakeholder Map - Onion Diagram:洋葱图

Indicates how involved the stakeholders are with the solution, which stakeholders will directly interact with the solution or participate in a business process, which are part of the larger organization, and which are outside the organization.

Stakeholder Map - Stakeholder Matrix

Maps the level of stakeholder influence against the level of stakeholder interest.



Responsibility (RACI) Matrix

RACI stands for the for types of responsibility that a stakeholder may hold on the initiative: Responsible, Accountable, Consulted and Informed.

Responsible (R): the persons who will be performing the work on the task.

Accountable (A): the person who is ultimately held accountable for successful completion of the task and is the decision maker. Only one stakeholder receives this assignment.

Consulted (C): the stakeholder or stakeholder group who will be asked to provide an opinion or information about the task. This assignment is often provided to the subject matter experts(SMEs).

Informed (I): a stakeholder or stakeholder group that is kept up to date on the task and notified its outcome. Informed is different from Consulted as with informed the communication is one-direction and with consulted the communication is two-way.

Personas:

Defined as a fictional character or archetype that exemplifies the way a typical user interacts with a product.

Written in narrative form and focuses on providing insight into the goals of the group.

Conduct research to understand the user group, then create personas based on knowledge rather than opinion.

Analysis: Data/information

10.12 Data Dictionary

Used to standardize a definition of a data element and enable a common interpretation of data elements.

Data Dictionaries can be maintained manually(as a spreadsheet) or via automated tools.

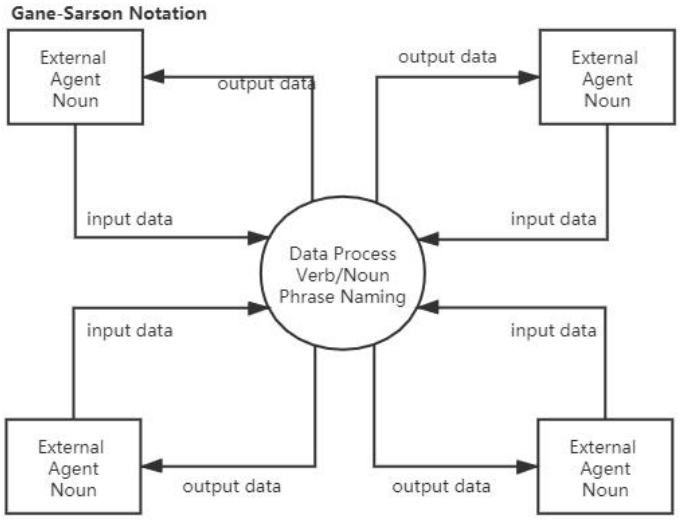
Primitive Data Elements	**Data Element 1**	**Data Element 2**	**Data Element 3**
Name Name referenced by data elements	First Name	Middle Name	Last Name
Alias Alternate name referenced by stakeholders	Given Name	Middle Name	Surname
Values/Meanings Enumerated list or description of data element	Minimum 2 characters	Can be omitted	Minimum 2 characters
Description Definition	First Name	Middle Name	Family Name
Composite	**Customer Name** = First Name + Middle Name + Family Name		

10.13 Data Flow Diagrams

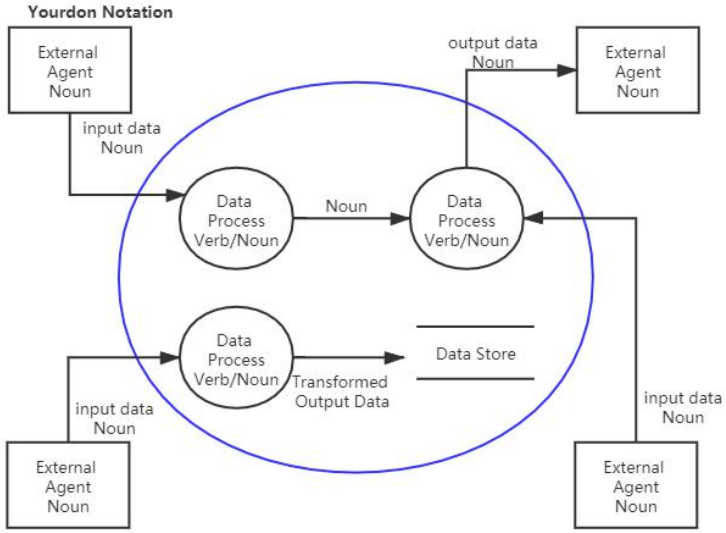
Data flow diagrams show where data comes from, which activities process the data, and if the output results are stored or utilized by another activity or external entity.数据流向图，显示在解决方案中数据如何使用流入以及输出各是什么。

A data flow diagram illustrates the movement and transformation of data between external (entities) and processes.

Context diagrams(Gane-Sarson Notation) show the system in its entirety, as a transformation engine with externals as the source or consumer of data.



Level 1 diagrams(Yourdon Notation) illustrate the processes related to the system with the respective input data, output transformed data, and data stores.



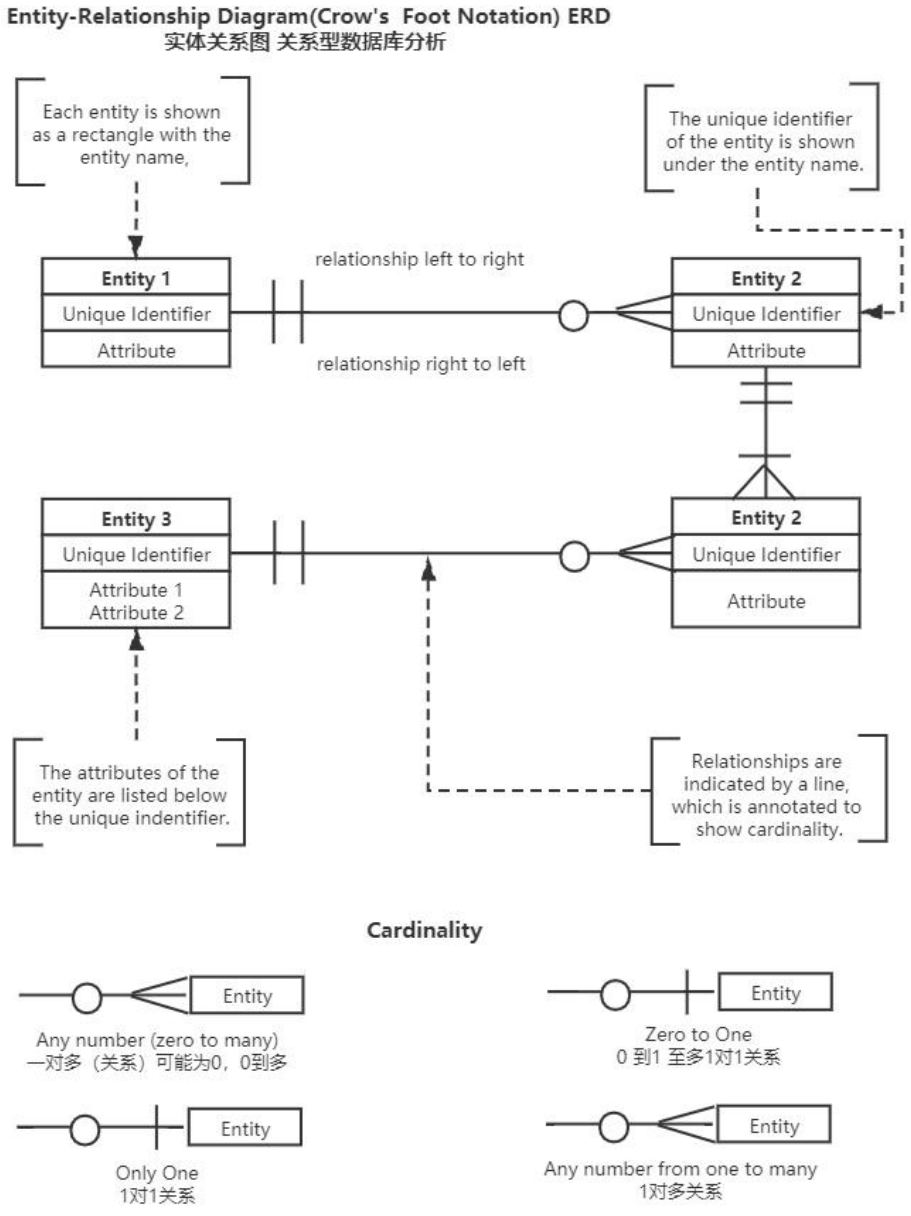
10.15 Data Modelling

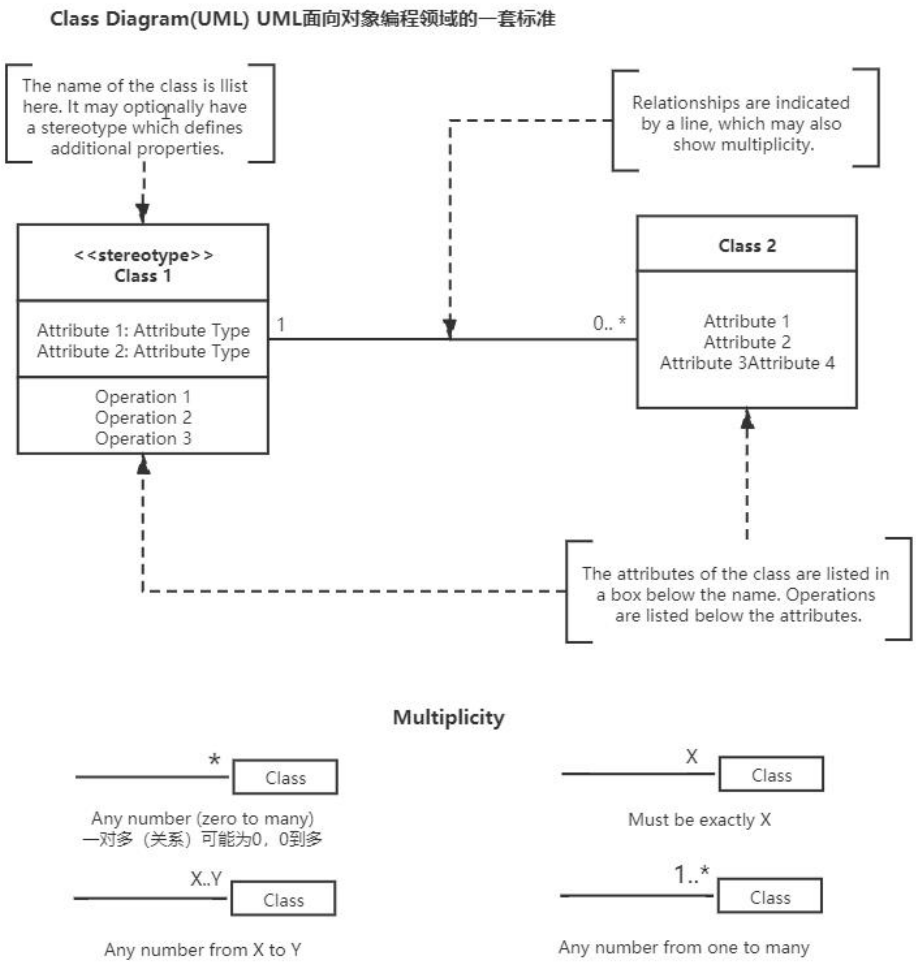
A data modelling describes the entities, classes or data objects relevant to a domain, the attributes that are used to describe them, and the relationships among them to provide a common set of semantics for analysis and implementation.

1. Concept data model: is independent of any solution or technology and can be used to represent how the business perceives its information.说明概念与概念之间的关系，业务部门如何看待业务领域中的信息，与实现技术无关。

2. Logical data model: is an abstraction of the conceptual data model that incorporates rules of normalization to formally manage the integrity of the data and relationships.与解决方案设计相关，对概念模型进行抽象化并应用规范化规范管理数据的完整性以及相互关系。

3. Physical data model: describe how a database is physically organized.it addressed concerns like performance, concurrency, and security.物理模型，由实施领域专家使用，描述 DB 的物理组织。





Both data models and class models may have one or more diagrams that show entities, attributes, and relationships.

The diagram in a data model is called an entity-relationship diagram(ERD). In a class model, the diagram is called a class diagram.

10.23 Glossary

Defines key terms relevant to a business domain to provide a common understanding.术语表，定义的是术语/专业用于，非数据元素（数据字典）
A glossary is organized and continuously accessible to all stakeholders. A glossary is a list of terms in a particular domain with definitions for those terms and their common synonyms. Includes terms:
Unique to a domain;
With multiple definitions;
With implications outside common use;
With chance of misunderstanding.
Consider:
Make definitions clear, concise and brief;
Spell our acronyms;
Make it easily accessible;
Limit edit access to specific stakeholders.

10.24 Interface analysis

Identify where, what, why, when, how and for whom information is exchanged between solution components or across solution boundaries.

Interface types: 接口分析/界面分析

User interfaces,
Hardware devices,
Application programming interfaces(APIs),
External people,
Business processes,
Data interfaces.

Elements:

Prepare for identification	**Conduct interface identification**	**Define interface**
1. Understand which interfaces to identify; 2. Identify key issues.	1. Identify what interfaces are needed; 2. For each: Describe function; Assess frequency of usage; Evaluate type; Elicit initial details.	1. Name of interface; 2. Coverage or span; 3. Exchange method; 4. Message format; 5. Exchange frequency.

10.44 State modeling

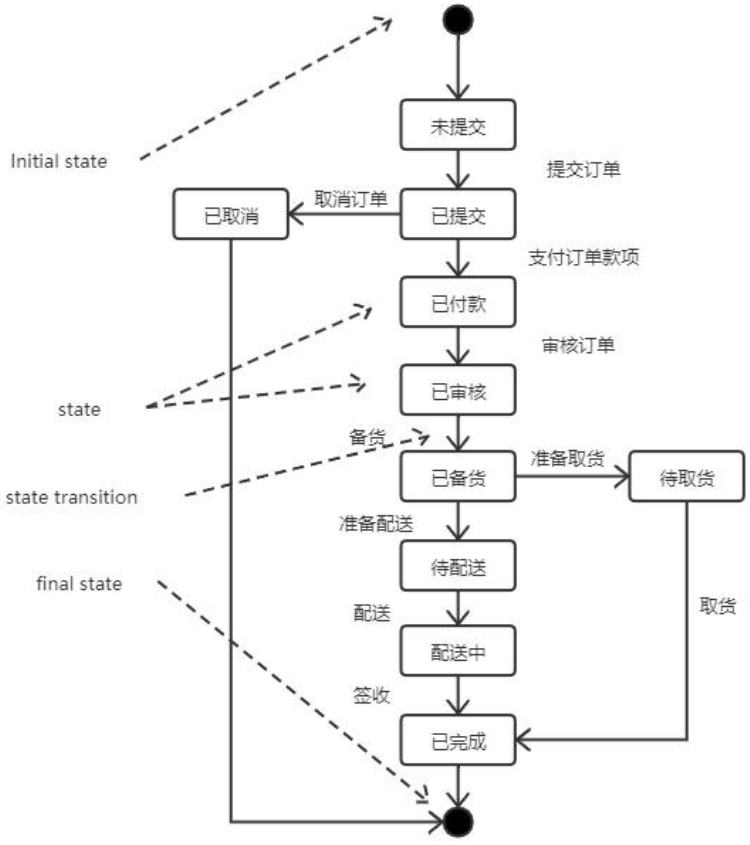
State modeling is used to describe and analyze the different possible states of an entity within a system, how that entity changes from one state to another, and what can happen to the entity when it is in each state.实体对象模型/状态图/状态模型，描述实体对象的生命周期不同状态，不同状态间如何转换。

In a state model (also sometimes called a state transition model), a state is a formal representation of a status. It is used when it is necessary to have a precise and consistent understanding of an entity that has complex behaviour and complex rules about that behaviour.

While a process model can show all of the entities that are used in or affected by that process, a state model shows a complementary view: what happens to one entity across all the processes that affect it or use it.

State Diagram:

状态图需包含一个起始状态（代表对象生成时的状态），可有多个中间状态和结束状态。



Analysis: Process

10.34 Process Analysis

Assesses a Process for its efficiency and effectiveness, as well as its ability to identify opportunities for change.

Improve process by reducing time to complete tasks, modifying interfaces or hand-offs between roles and organization units, automating routine steps, and increasing degree of automation in decision making.

Look for how the process adds or creates value; how the process aligns to organizational goals and strategy; to what degree the process is and needs to be efficient, effective, measured, controlled, used, and transparent; how the requirements for a solution cover the future state process and its external stakeholders, including customers.

Identify Gaps and Areas to improve	Identify root cause	Generate and evaluate options
1. Identify gaps between current and desired future state; 2. Identify value and non-value added gaps and areas; 3. Understand pain points and challenges; 4. Understand improvement opportunities; 5. Align gaps and areas to improve with strategic direction and enterprise changes.	1. Understand there may be multiple root causes; 2. Understand the inputs leading to the gap and areas of improvement; 3. Understand the right people to identify the root cause; 4. Understand the measurements and motivators for process owners or performers.	1. Generate options and alternative solutions to solve for the gap or area of improvement; 2. Involve stakeholder to identify the impact, feasibility and value of the proposed solution.

SIPOC is a process analysis method that originates in the Six Sigma methodology and has been more commonly adopted as a process analysis method outside of Six Sigma.

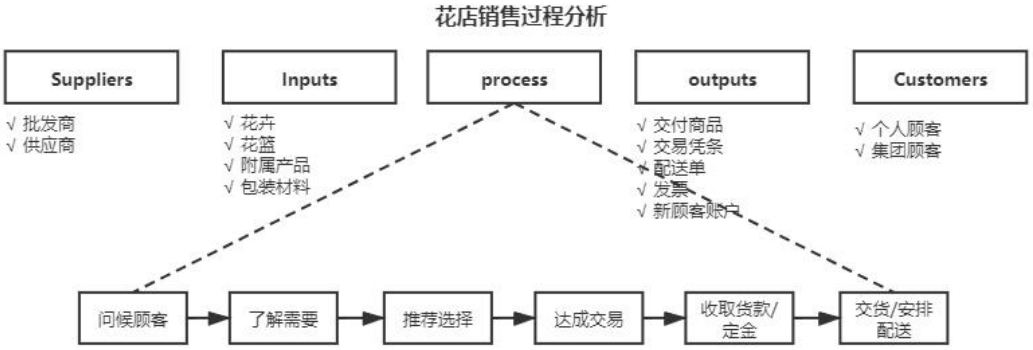
A SIPOC provides a simple overview of the process. It also shows the complexity of who and what is involved in creating inputs to the process and shows who receives outputs from the process.

A SIPOC is a powerful tool used to create dialogue about problems, opportunities, gaps, root cause, and options and alternatives during process analysis.

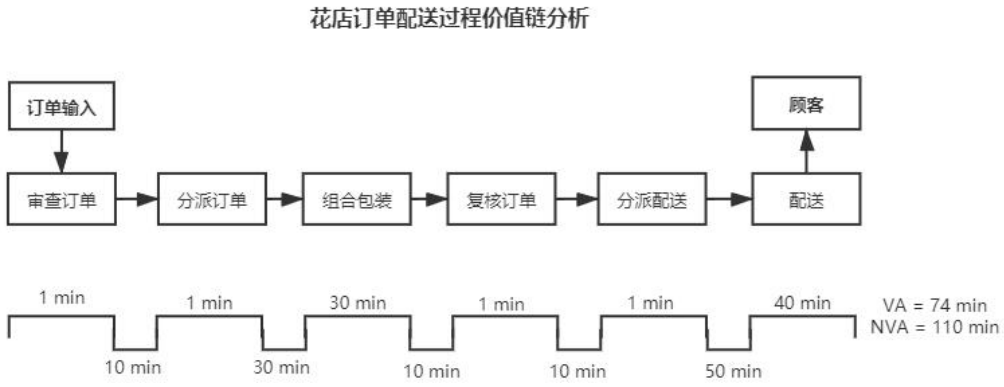
Value stream mapping (VSM) is a process analysis method used in learn methodologies. At each step, the value stream map gauges the wait time for the inputs and the actual processing times at the application points(also known as conversion times). At the end of the supply chain, the value stream map depicts the logistics or distribution process to the customer.

The value stream map provides a one-page of ll the steps involved in the end-to-end process, including both value-adding (the value stream) and non-value-adding(waste) elements.

Common methods ----SIPOC
originates in the six sigma methodology



Common methods ----Value Stream Mapping (VSM)
Used in lean methodologies



10.35 Process Modelling

Describe the sequential flow of work or activities and is a foundation for process analysis.

A business process model describes the sequential flow of work across defined tasks and activities through an enterprise or part of an enterprise.

A system process model defines the sequential flow of control among programs or units within a computer system.

A process model can be constructed on multiple levels: enterprise, operational, system, each of which can be aligned to different stakeholder points of view.

The business analyst can use a process model to define the current state of a process (known as an as-is model) or potential future state (known as a to-be model).

Types of process models and notations:

Flowcharts and value stream mapping (VSM): used in the business domain,

flowcharts used commonly with non-technical audiences and are good for gaining both alignment with what the process is and context for a solution;

Data flow diagrams and unified modelling language (UML) diagram: used in the information technology domain;

Business process model and notation (BPMN): used across both business and information technology domains, is increasingly adopted as an industry standard,

BPMN provides an industry-standard language for modelling business processes,maintained by the OMG (object management group);

Integrated DEFinition (IDEF) notation and input, guide, output, enabler (IGOE) diagrams: used for establishing scope;

SIPOC and value stream analysis: used for process modelling.

Key elements:

Activity: an individual step or piece of work that forms part of the business process.

Event: a zero-time occurrence which initiates, interrupts, or terminates an activity or task within a process or the process itself.

Directional Flow: a path that indicates the logical sequence of the workflow.

Decision Point: a point in the process where the flow of work splits into two or more flows(paths).

Link: a connection to other process maps.

Role: a type of person or group involved in the process. Its definitions typically match those in the organizational model.

10.42 Sequence Diagrams

Model the logic of usage scenarios by showing the information passed between objects in the system through the execution of the scenario.

The classes requires to execute the scenario and the messages they pass to one another (triggered by steps in the use case) are displayed on the diagram.

Shows how objects used in the scenario interact, but not how they are related to one another.

The standard notation for sequence diagrams is defined as part of the Unified Modelling Language (UML) specification.

Analysis: Decisions/Rules

10.9 Business Rules Analysis

A business policy is a directive concerned with broadly controlling, influencing, or regulating the actions of an enterprise and the people in it.

A business rule is a specific, testable directive that serves as a criterion for guiding behavior, shaping judgments, or making decisions.

A set of rules for making an operational business decision may be expressed as a decision table or decision tree.

1. Definitional Rules

Definitional rules shape concepts, or produce knowledge or information.

Definitional rules represent operational knowledge of the organization, definitional rules can't be violated but they can be misapplied.不可违反但可被误用。

2. Behavioural Rules

Behavioural rules are people rules- even if the behaviour is automated. Behavioural rules serve to shape(govern) day-to-day business activity.

Behavioural rules are intended to guide the actions of people working within the organization, or people who interact with it.

In contrast to definitional rules, behavioural rules are rules that can be violated directly.

10.16 Decision Analysis

Decision analysis formally assesses a problem and possible decisions in order to determine the value of alternate outcomes under conditions of uncertainly.

决策模型：为决策还准备，制定决策机制和方法（决策表，决策树）；

决策分析：具体做出决定，可应用之前的决策模型，或结合多种因素综合考虑。

Decision analysis approaches use the following activities:

1. **Define Problem Statement:** clearly describe the decision problem to be addressed.
2. **Define alternatives:** identify possible propositions or courses of action.
3. **Evaluate alternatives:** determine a logical approach to analyze the alternatives. An agreement of evaluation criteria can also be determined at the beginning of this activity.
4. **Choose Alternative to Implement:** the stakeholders responsible for making the decision choose which alternative will be implemented based on the decision analysis results.
5. **Implement Choice:** implement the chosen alternative.

Elements:

1. Components of decision analysis

Decision to be made or problem statement: a description of what the decision question or problem is about.

Decision maker: person or people responsible for making the final decision.

Alternative: a possible proposition or course of action.

Decision: evaluation criteria used to evaluate the alternatives.

2. Decision matrices

Provide examples of a simple decision matrix and a weighted decision matrix.

3. Decision trees

A decision tree is a method of assessing the preferred outcome where multiple sources of uncertainly may exist.

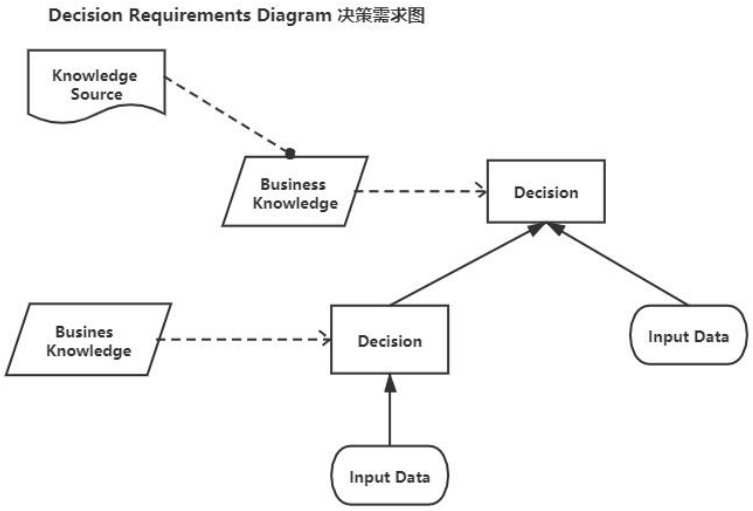
4. Trade-offs

Elimination of dominated alternatives：排除劣势选择

Ranking objectives on a similar scale：排序选择最佳选择

10.17 Decision Modelling

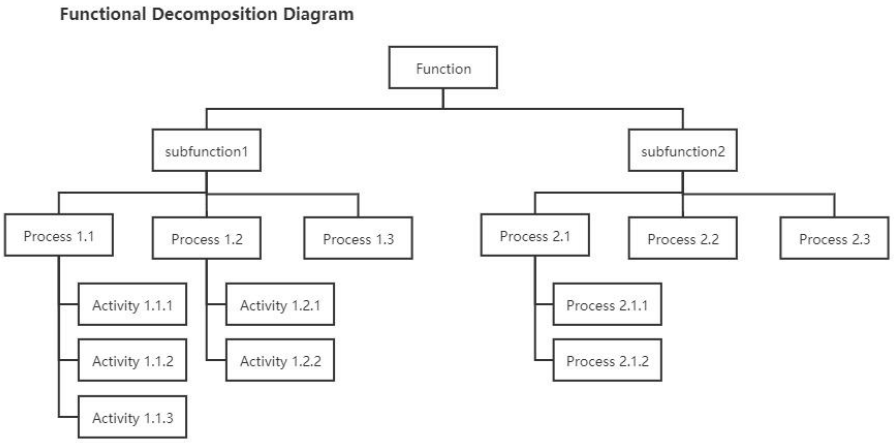
Decision modelling shows how repeatable business decisions are made.
Decision models show how data and knowledge are combined to make a specific decision.
Three key elements: **decision, information, knowledge**.
Decision Tables:Decision tables generally contain one or more condition columns that map to specific data elements, as well as one or more action or outcome columns.
Decision Trees: a decision tree selects one of the available actions or outcomes based on the specific values passed to it by the data elements that represent the branching nodes.
Decision Requirements Diagrams: a visual representation of the information, knowledge, and decision making involved in a more complex business decision.



Analysis: Functional /non-functional requirements

10.22 Functional Decomposition

Functional decomposition helps manage complexity and reduce uncertainty by breaking down processes, systems, functional areas, or deliverables into their simpler constituent parts and allowing each part to be analyzed independently.
The depth of decomposition may vary depending on the mature of components and objectives.
The diagram below provides an example of how a function can be broken down to manageable, measurable sub-components.



Decomposition Objectives:
1. **Measuring and Managing:** isolate specific manageable factors that contribute to the overall result, or to identity important metrics and indicators.
2. **Designing:** simplify a design problem by reducing and isolating the object of design.
3. **Analyzing:** study the essential properties and behaviours of an artifact or phenomenon in isolation from its encompassing environment.
4. **Estimating and Forecasting:** decrease the level of uncertainty by breaking down a complex value into its constituent factors.
5. **Reusing:** create a reusable solution building block that serves a specific function for varoious processes.
6. **Optimization:** detect or alleviate a bottleneck, reduce function cost, or improve process quality.
7. **Substitution:** make a specific implementation of a solution component or a function easily replaceable without impacting the system as a whole.
8. **Encapsulation:** combining elements to make one element.

Subjects of Decomposition:分解对象，不限于分解功能
1. **Business Outcomes:** for example, income, profit, expenses, volume of service, or volume of production.
2. **Work to Be Done:** this decomposition breaks endeavours into phases, milestones, work activities, tasks, work items, and deliverables.
3. **Business Process:** identify its constituent parts for the purposes of measuring, managing, optimizing, or reusing the process or its components.
4. **Function:** enable its optimization or implementation.
5. **Business Unit:** enable its reverse engineering and design.
6. **Solution Component:** enable its design, implementation, or change.
7. **Activity:** enable its implementation, modification, optimization, measurement, and estimation.
8. **Products and Services:** design, implement, and improve them.

9. **Decisions:** for enabling, improving, or supporting them by identifying their inputs, underlying models, dependencies, and outcomes.

Level of Decomposition:
The process of functional decomposition continues until the business analyst has just enough understanding and detail to proceed and can apply the results of decomposition in the execution of other tasks.

Representation of Decomposition Results:
Tree diagrams
Nested diagrams
Use case diagrams
Flow diagrams
State transition diagrams
Cause-Effect diagrams
Decision trees
Mind maps
Component diagrams
Decision model & notation

10.30 Non-Functional Requirements Analysis

Examines the requirements for a solution that define how well the functional requirements must perform.

Non-functional requirements (also known as quality attributes or quality of service requirements) augment the functional requirements of a solution, identify constraints on those requirements, or describe quality attributes a solution must exhibit when based on those functional requirements.

Non-functional requirements are generally expressed in textual formats as declarative statements or in matrices.

Common categories of non-functional requirements include:

Availability 可用性: degree to which the solution is operable and accessible when required for use often expressed in terms of percent of time the solution is available.

Compatibility 兼容性：degree to which the solution operates effectively with other components in its environment, such as one process with another.

Functionality 功能性: degree to which the solution functions meet user needs, including aspects of suitability, accuracy, and interoperability. 功能与需求的匹配程度

Maintainability 可维护性: 维护成本，时间要求

Performance Efficiency 性能要求:

Portability:可移植性

Reliability:可靠性

Scalability:容量可扩展性

Security:安全性

Usability:易用性

Certification:认证

Compliance:

Localization:本地化

Service level agreements:服务等级协议

Extensibility:功能扩展性

Including an appropriate measure of success provides the opportunity for verification.

10.47 Use cases and scenarios

Describe how a person or system interacts with the solution being modeled to achieve a goal.

A use case describes the possible outcomes of an attempt to accomplish a particular goal that the solution will support. It details different paths that can be followed by defining primary and alternative flows.

Use cases are written from the point of view of the actor and avoid describing the internal workings of the solution.

A scenario described just one way that an actor can accomplish a particular goal, written as a series of steps performed by actors or by the solution. A use case describes several scenarios.

10.48 User Stories

Represents a small, concise statement of functionality or quality needed to deliver value to a specific stakeholders.用户故事，敏捷中粗颗粒呈现，短小简洁。

Typically a sentence or two that describes who has the need addressed by the story, the goal the user is trying to accomplish, and any additional information that may be critical to understanding the scope of the story.

With a focus on stakeholder value, user stories invite exploration of the requirements by promoting additional conversations with stakeholders and grouping functional requirements for delivery. 每个用户故事都相互独立，未必能看到整个，团队成员中需更多写作。

Title：查询商品

作为顾客，我可以使用商品查询，以快速找到所需的物品。 Who + what + why

优先级：

工作量：4

Acceptance criteria 验收标准：

顾客可以输入查询语句搜索商品名称包含该词语的商品。

顾客可以对查询结果按名称 价格 销量排序。

顾客可以对查询结果按商品 类别 存货情况做筛选。

Genetic Analysis:

10.11 Concept Modelling

A concept Model is used to organize the business vocabulary needed to consistently and thoroughly communicate the knowledge of a domain.

The goal of concept model is to support the expression of natural language statements, and supply their semantics.

1) Noun Concepts
2) Verb Concepts: provide basic structural connections between noun concepts.
3) Other Connections:categorizations,classifications,partitive(whole-part)connections,roles.

10.14 Data Mining

Data mining is used to improve decision making by finding useful patterns and insights from data.

It is an analytic process that examines large amounts of data from different perspectives and summarizes the data in such a way that useful patterns and relationships are discovered.

Including: supervised and unsupervised investigations.

Covers:

Descriptive: such as clustering make it easier to see the patterns in a set of data, such as similarities between customers.

Diagnostic: such as decision trees or segmentation.

Predictive: such as regression or neural networks.

1. Requirements Elicitation (establish goal and scope)
2. Data Preparation: Analytical dataset
3. Data Analysis
4. Modelling Techniques
5. Deployment

10.29 Mind Mapping

Mind mapping is used to articulate and capture thoughts, ideas, and information.

Mind mapping is a form of note taking that captures thoughts, ideas, and information in a non-linear diagram that closely resembles how our minds process information.

Use images, words, color, and connected relationships to apply structure and logic to thoughts, ideas, and information.

Can be developed individually or as a collaboration exercise.

The intent is to capture information in a fashion closely resembling how our minds process information.

Elements:

Main topic, topics, sub-topics, branches, keywords, color, images.

Limitations:

Can be misused as a brainstorming tool, and the related documenting of ideas and creating associations may inhibit idea generation.在头脑风暴中误用，思维导图方便理解概念关系，但这与头脑风暴的目的不一致。对联想创新产生一定制约。

A shared understanding of a mind map can be difficult to communicate.

Goal Setting & Evaluation

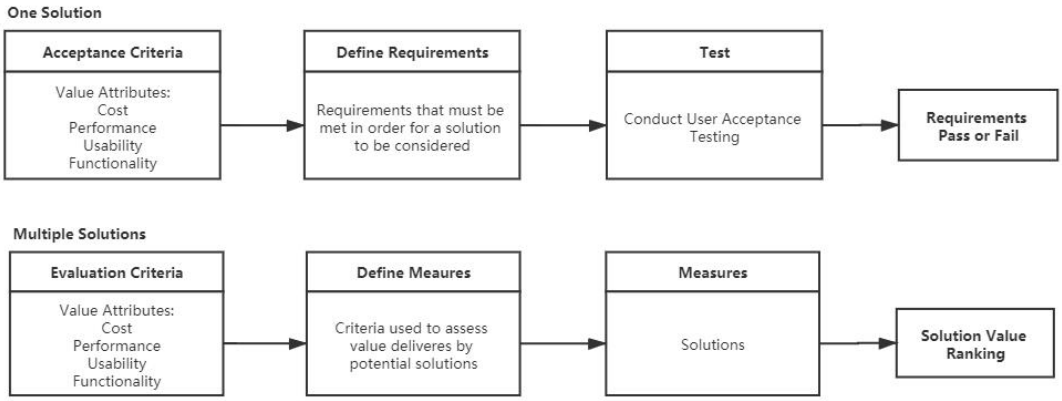
10.1 Acceptance and Evaluation Criteria

Acceptance criteria: define the requirements, outcomes, or conditions that must be met in order for a solution to be considered acceptable to key stakeholders.

Typically used when only one possible solution is being evaluated, and are generally expressed as a pass or fail.

Evaluation criteria: in order to choose between multiple solutions.

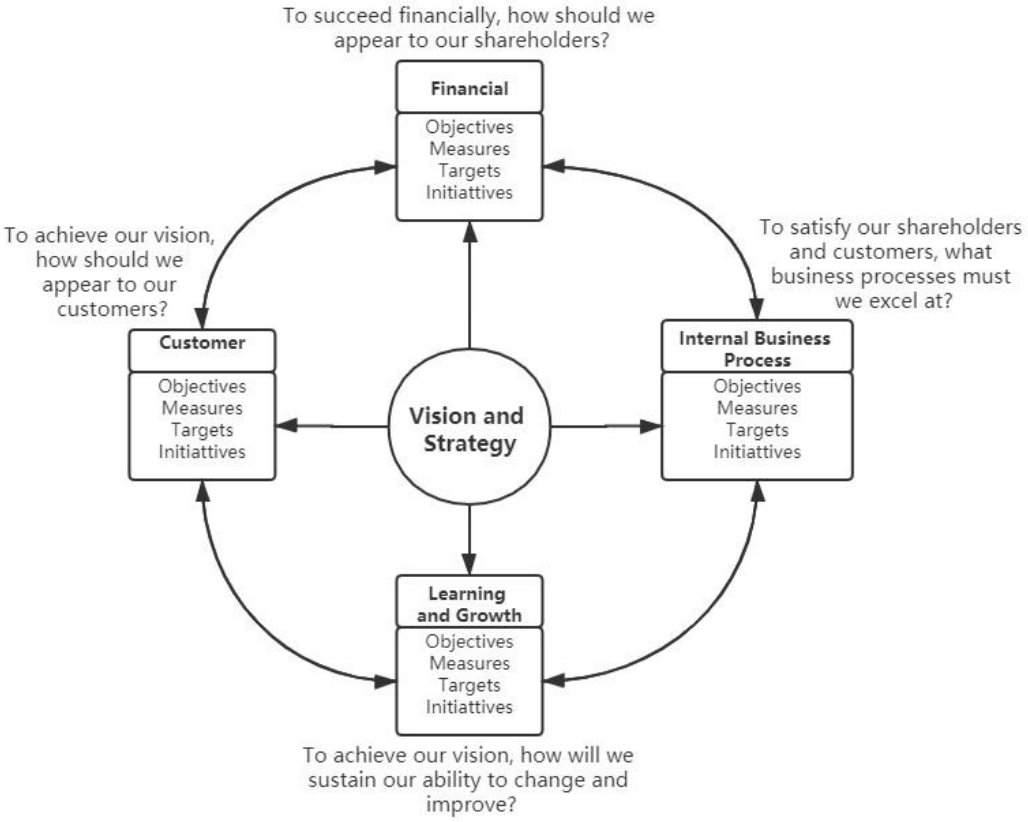
Define a set of measures which allow for ranking of solutions and alternative designs according to their value for stakeholders.



10.3 Balanced Scorecard

A strategic planning and management tool used to measure organizational performance beyond the traditional financial measures.

Composed of for dimension: learning and growth, business process, customer, financial.



10.20 Financial Analysis

Financial analysis is used to understand the financial aspects of an investment, a solution, or a solution approach.

Comparing one solution or solution approach to others, based on analysis of the :

1. Initial cost and the time frame in which those costs are incurred;
2. Expected financial benefits and the time frame in which they will be incurred;
3. Ongoing costs of using the solution and supporting the solution;
4. Risks associated with the change initiative;
5. Ongoing risks to business value of using that solution.

Elements:

1. Cost of the change

The cost of the change includes the expected cost of building or acquiring the solution components and the expected costs of transitioning the enterprise from the current state to the future state.

2. Total cost of ownership[(TCO)持有成本

The TCO is the cost to acquire a solution, the cost of using the solution, and the cost of supporting the solution for the foreseeable future, combined to help understand the potential value of a solution.

3. Value Realization 价值实现/收益实现 可能在不同时间点发生

Value is typically realized over time. The planned value could be expressed on an annual basis, or could be expressed as as cumulative value over a specific time period.

4. Cost-Benefit Analysis

Cost-benefit analysis(sometimes called benefit-cost analysis)is a prediction of the expected total benefits minus the expected total costs, resulting in an expected net benefit(the planned business value).

5. Financial Calculations

Return in Investment(ROI):

The return on investment of a planned change is expressed as a percentage measuring the net benefits divided by the cost of the change.

Return on Investment = (Total Benefits - Cost of the Investment)/Cost of the investment

The higher the ROI, the better the investment. When making a comparison between potential investments, the business analyst should use the same time period for both.

Discount Rate:

The discount rate is the assumed interest rate used in present value calculations. In general,this is similar to the interest rate that the organization would expect to earn if it invested its money elsewhere.

Present Value:

Different solutions and different solution approaches could realize benefits at different rates and over a different time. To objectively compare the effects of these different rates and time periods, the benefits are calculated in terms of present-day value. The benefit to be realized sometime in the future is reduced by the discount rate to determine its worth today.

Present Value = Sum of (Net Benefits in that period/(1 + Discount Rate for that period)) for all periods in the cost-benefit analysis.

Present value is expressed in currency. The higher the present value, the greater the total benefit.

Present value does not consider the cost of the original investment.

Net Present Value(NPV):

NPV is the present value of the benefits minus the original cost of the investment. In this way, different investments, and different benefit patterns can be compared in terms of present day value.The higher the NPV, the better investment.

Net Present Value = Present Value - Cost of investment

Net present value is expressed in currency.

Internal Rate of Return(IRR):

IRR is the interest rate at which an investment breaks even, and is usually used to determine if the change, solution or solution approach is worth investing in.

The analyst may compare the IRR of one solution or solution approach to a minimum threshold that the organization expects to earn from its investments(called the hurdle rate). If the change initiative' s IRR is less than the hurdle rate, then the investment should not be made.

The IRR is internal to one organization since it does not consider external influencers such as inflation or fluctuating interest rates or a changing business context.

The IRR calculation is based on the interest rate at which the NPV is 0:

Net Present Value = (-1 * Original Investment) + sum of (net benefit for that period/(1+IRR) for all periods) = 0

Payback Period:

The payback period provides a projection on the time period required to generate enough benefits to recover the cost of the change, irrespective of the discount rate. The time period is usually expressed in years or years and months.

10.27 Lessons learned

Compile and document successes, opportunities for improvement, failures, and recommendations for improving the performance.

A lessons learned session (also known as a retrospective) helps identify either changes to business analysis processes and deliverables or successes that can be incorporated into future work.

Can include any format or venue that is acceptable to the key stakeholders and can be either formal facilitated meetings with set agendas and meeting roles or informal working sessions.

Sessions can include a review of :

- Business analysis activities or deliverables;
- The final solution, service, or product;
- Automation or technology that was introduced or eliminated;
- Impact to organizational processes;
- Performance expectations and results;
- Positive or negative variances;
- Root causes impacting performance results;
- Recommendations for behavioural approaches.

10.28 Metrics and key performance indicators (KPIs)

Measure the performance of solutions, solution components, and other matters of interest to stakeholders.

An indicator identifies a specific numerical measurement that represents the degree of progress toward achieving a goal, objective, output, activity or further input.

A key performance indicator (KPI) is one that measures progress towards a strategic goal or objective.

A metric is a quantifiable level of an indicator used to measure progress at a specified point in time.

Reporting is the process of informing stakeholders of metrics of indicators in specified formats at specified intervals.

Indicators: a good indicator has six characteristics:

Clear: precise and unambiguous.

Relevant: appropriate to the concern.

Economical: available at reasonable cost.

Adequate: provides a sufficient basis on which to assess performance.

Quantifiable: can be independently validated.

Trustworthy and Credible: based on evidence and research.

Use proxies if can not be measured directly.

Metrics:

Can be a specific point, a threshold or a range.

In setting a metric for an indicator, it is important to have a clear understanding of the baseline starting point, resources that can be devoted to improving the factors covered by the indicator, and political concerns.

Structure:

Establishing a monitoring and evaluation system requires a data collection procedure, a data analysis procedure, a reporting procedure, and the collection of baseline data.

Three key factors in assessing the quality of indicators and their metrics - reliability, validity and timeliness.

Reporting:

Compares the baseline, current metrics and target metrics with calculations of the differences presented in both absolute and relative terms.

Visual presentations tend to be more effective than tables, particularly when using qualitative text to explain the data.

10.49 Vendor Assessment

Assesses the ability of a vendor to meet commitments regarding the delivery and the consistent provision of a product or service.

May be formal through the submission of RFI, RFQ, RFT, or RFP. It may also be very informal through word of mouth and recommendations.

RFI: submission of a request for information

RFQ: request for quote

RFT: request for tender 相对正式的招标

RFP: request for proposal

Elements:

Knowledge and expertise.能力 经验

Licensing and pricing models. 许可证 费用

Vendor market position. 在市场中的地位

Terms and conditions. 条件

Vendor experience, reputation and stability. 相关领域经验 稳定程度

Planning:

10.19 Estimation

Estimation is used by business analysts and other stakeholders to forecast the cost and effort involved in pursuing a course of action.
Estimation is used to support decision making by predicting attributes such as :

1. Cost and effort to pursue a course of action,
2. Expected solution benefits,
3. Project cost,
4. Business performance,
5. Potential value anticipated from a solution,
6. Costs of creating a solution,
7. Costs of operating a solution,
8. Potential risk impact.

Common estimation methods include:

1. **Top-down**: examining the components at a high level in a hierarchical breakdown.
2. **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.
3. **Parametric Estimation**: use of a calibrated parametric model of the element attributes being estimated.
4. **Rough Order of Magnitude(ROM)**: a high-level estimate, generally based on limited information, which may have a very wide confidence interval.
5. **Rolling Wave**: repeated estimates throughout an initiative or project, providing detailed estimates for near-term activities (such as an iteration of the work) extrapolated for the remainder of the initiative or project.
6. **Delphi**: uses a combination of expect judgment and history.
7. **PERT**: each component of the estimate is given three values:
    1) optimistic value, representing the best-case scenario,
    2) pessimistic value, representing the worst-case scenario,
    3) most likely value.

    The a PERT value for each estimated component is computed as a weighted average: (optimistic + pessimistic + (4 times most likely))/6

Tracking & Management:

10.2 Backlog Management

The backlog is used to record, track, and prioritize remaining work items. A backlog occurs when the column of work items to be completed exceeds the capacity to complete them.

The items at the top have the highest business value and the highest priority.

Elements:

Items in the backlog

Prioritization

Estimation

Managing Changes to the Backlog: Items are removed from the backlog when they are completed, or if a decision has been made to not do any more work on them.

10.26 Item Tracking

Item tracking is used to capture and assign responsibility for issues and stakeholder concerns that pose an impact to the solution.
Stakeholders may identify such item types as actions, assumptions, constraints, dependencies,defects, enhancements, and issues.
Item tracking tracks the item from the initial recording of the concern and its degree of impact to its agreed-upon closure.
During its life cycle, and item is assigned to one or more stakeholders who are responsible for its resolution.

Item Record: may contain some or all of the following information:

Item Identifier: a unique identifier that distinguishes one item from another;

Summary: a brief description of the item;

Category: a grouping of items with similar properties;

Type: the kind of item raised;

Data Identified: that date the item was raised as a concern;

Identifies by: the person who initially raised the concern;

Impact: the possible consequences if the item is nor resolved by the resolution due date. Impact can be assessed in relation to the initiative' s time, cost, scope, or quality.

Priority: the importance of this item to the impacted stakeholders.

Resolution Date: the date by which the item must be resolved(or closed).

Owner: the stakeholder assigned to manage the item to its closure.

Resolver: the stakeholder assigned to resolve the item.

Agree strategy: agreed-upon strategy for the item. Examples include accept, pursue, ignore, mitigate, and avoid.

Status: the current status id the item within its life cycle. Examples include open, assigned, resolved, and cancelled.

Resolution updates: a running log of details about how the item' s resolution is proceeding towards closure, as well as approval of its completion.

Escalation Matrix: a level of escalation in case the item is not resolved by the given due date.

Item management:
Each item must be tracked to its closure or resolution. If it can not be resolved in a reasonable period of time it may be necessary to escalate it.

Metrics:
Measure and report on metrics (e.g. number of items, cycle time for each item) to determine how well:

Items are being resolved by the proper resources;

The initiative is progressing;

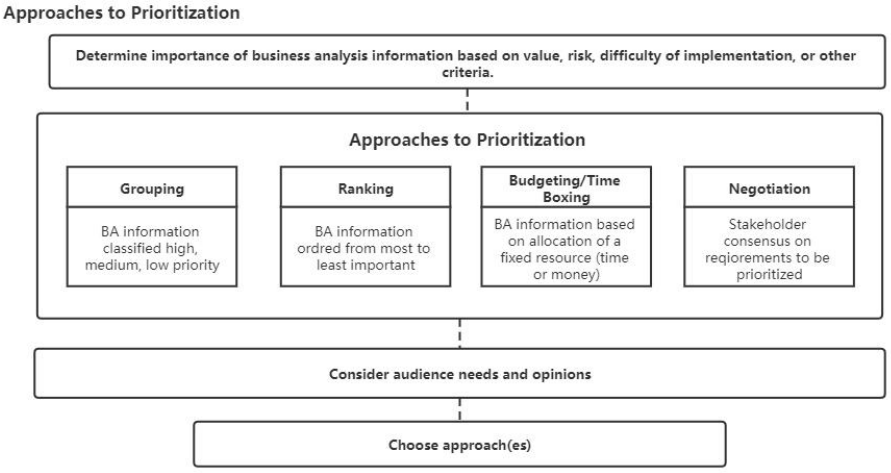
The item tracking process is being utilized.

10.33 Prioritization

Understand the relative importance of business analysis information and facilitate stakeholder decision.

The importance may be based on value, risk, difficulty of implementation, or other criteria.

Consider audience needs and opinions to choose prioritization approach.



Grouping: 分类/分组

Ranking: 排序

Budgeting/ Time Boxing: 时间/预算进行分类 时间盒 时间区间内完成的任务量/结算预算进行划分

Negotiation: 和干系人进行谈判

10.38 Risk analysis & Management

Identifies areas of uncertainty that could negatively affect value, analyzes and evaluates those uncertainties, and develops and manages ways of dealing with the risks.

Where sufficient controls are not already in place, business analysts develop plans for avoiding, reducing, or modifying the risks, and when necessary, implementing these plans.

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.

Each risk can be described in a risk register that supports the analysis of those risks and plans for addressing them.

2. Analysis

The likelihood of occurrence could be expressed either as a probability on a numerical scale or with values such as Low, Medium, and High.

The consequences of a risk are described in terms of their impact on the potential value.

The level of a given risk may be expressed as a function of the probability of occurrence and the impact. The risks are prioritized relative to each other according to their level.

3. Evaluation

The risk analysis results are compared with the potential value of the change or if the solution to determine of the level of risk is acceptable or not.

4. Treatment

Avoid: remove source of the risk or ensure it does not occur.避免

Transfer: move the liability to, or share it with a third party.转换/转嫁

Mitigate: reduce the probability or consequence of the risk.减少/减轻

Accept: not to do anything.接受

Increase: take on more risk to pursue an opportunity.增加 opportunity 正面风险

A risk response plan is developed and assigned to a risk owner with responsibility and authority for that risk.

The risks may be reevaluated in terms of the residual risk.