Needs Assessment

Introduction

- **Needs Assessment** includes the processes used to **analyze a current business problem** or **opportunity**, analyze current and future states to determine an optimal solution that will provide value and address the business need, and assemble the results of the analysis to provide decision makers with relevant information for determining whether an investment in the proposed solution is viable.

- The Needs Assessment processes are:

1. **Identify Problem or Opportunity**—The process of identifying the problem to be solved or the opportunity to be pursued.
2. **Assess Current State**—The process of examining the current environment under analysis to understand important factors that are internal or external to the organization, which may be the cause or reason for a problem or opportunity.
3. **Determine Future State**—The process of determining gaps in existing capabilities and a set of proposed.
4. **Determine Viable Options and Provide Recommendation**—The process of applying various analysis techniques to examine possible solutions for meeting the business goals and objectives and to determine which of the options is considered the best possible one for the organization to pursue.

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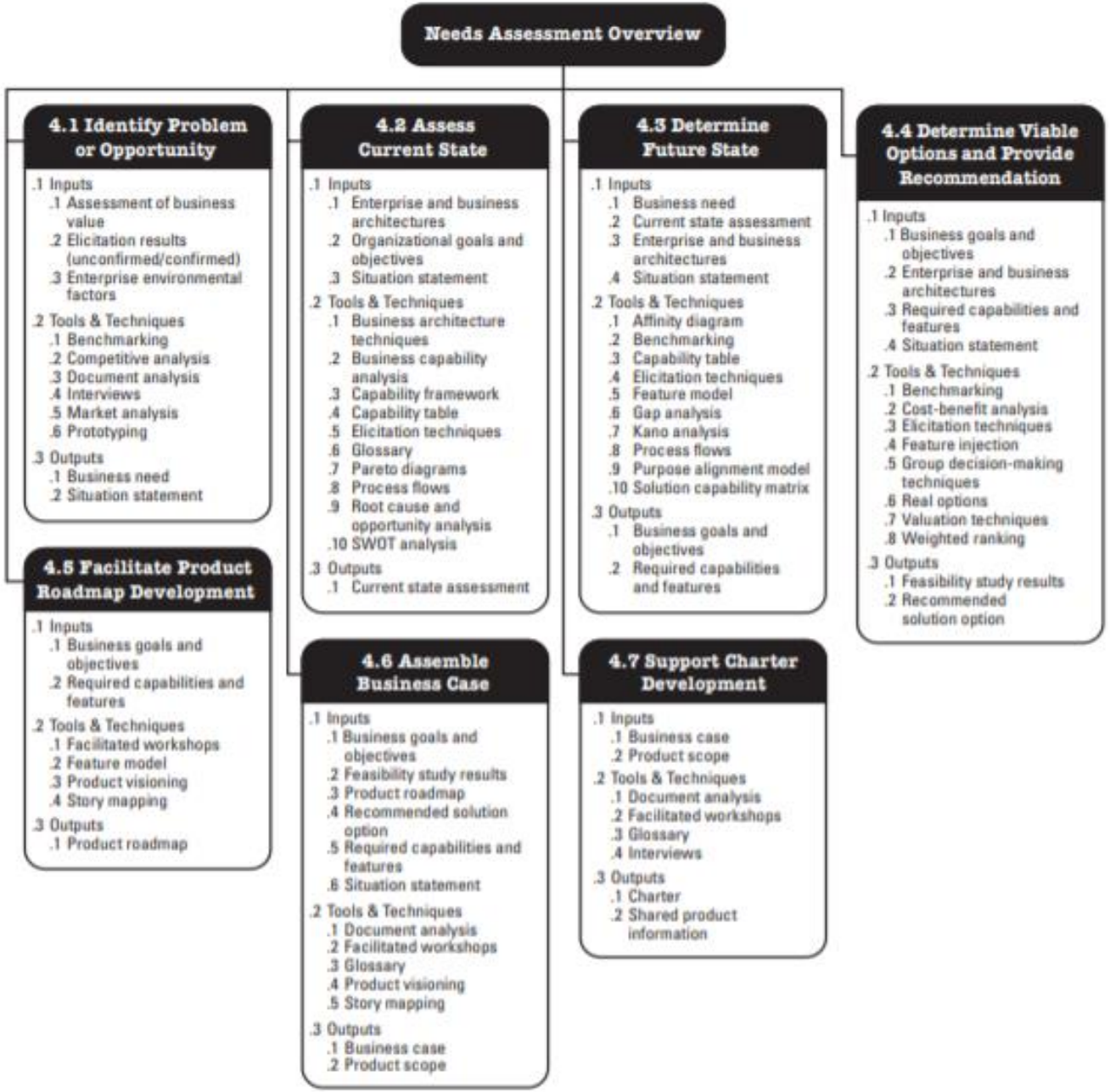
5. **Facilitate Product Roadmap Development**—The process of supporting the development of a product roadmap that outlines, at a high level, which aspects of a product that are planned for delivery over the course of a portfolio, program, or one or more project iterations or releases, and the potential sequence for the delivery of these aspects.
6. **Assemble Business Case**—The process of synthesizing well-researched and analyzed information to support the selection of the best portfolio components, programs, or projects to address the business goals and objectives.
7. **Support Charter Development**—The process of collaborating on charter development with the sponsoring entity and stakeholder resources using the business analysis knowledge, experience, and product information acquired during needs assessment and business case development efforts.

*In the needs assessment knowledge area, there are 7 processes. 6 processes are part of the **Defining and aligning** process group, and 1 process in the **Initiating** process group.*


Needs Assessment Overview
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.3 Enterprise environmental factors
.2 Tools & Techniques
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.5 Story mapping
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.1 Business case
.2 Product scope
4.7 Support Charter Development
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.1 Business case
.2 Product scope
.2 Tools & Techniques
.1 Document analysis
.2 Facilitated workshops
.3 Glossary
.4 Interviews
.3 Outputs
.1 Charter
.2 Shared product information

Needs Assessment

Introduction

- Needs Assessment processes guide the **investment decisions made by organizations**. During portfolio and program management, business analysis results are used to ensure that the performance of the portfolio or program continues to provide the expected **business value**; that new initiatives align with organizational strategy and portfolio and program objectives; that proposed portfolio components, programs, and projects are well vetted and scrutinized with accurate information; and that all aspects of a proposed solution are analyzed for value and risk.
- Needs Assessment activities are performed to assess the internal and external environments and current capabilities of the organization to determine a set of viable solution options, any one of which, if pursued, would help the organization address the business need.
- These activities provide information that **decision makers** can use when determining which strategic initiatives to pursue, which activities to perform, and which components of portfolios to implement or terminate.

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Introduction

- The results provide the contextual information used when initiating portfolio components, programs, or projects and establishing portfolio, program, or project and product scope.
- Understanding the business problems and opportunities with stakeholders is important for all programs and projects; the degree to which a Needs Assessment is formally documented depends upon organizational, cultural, environmental, market, and possibly regulatory constraints.

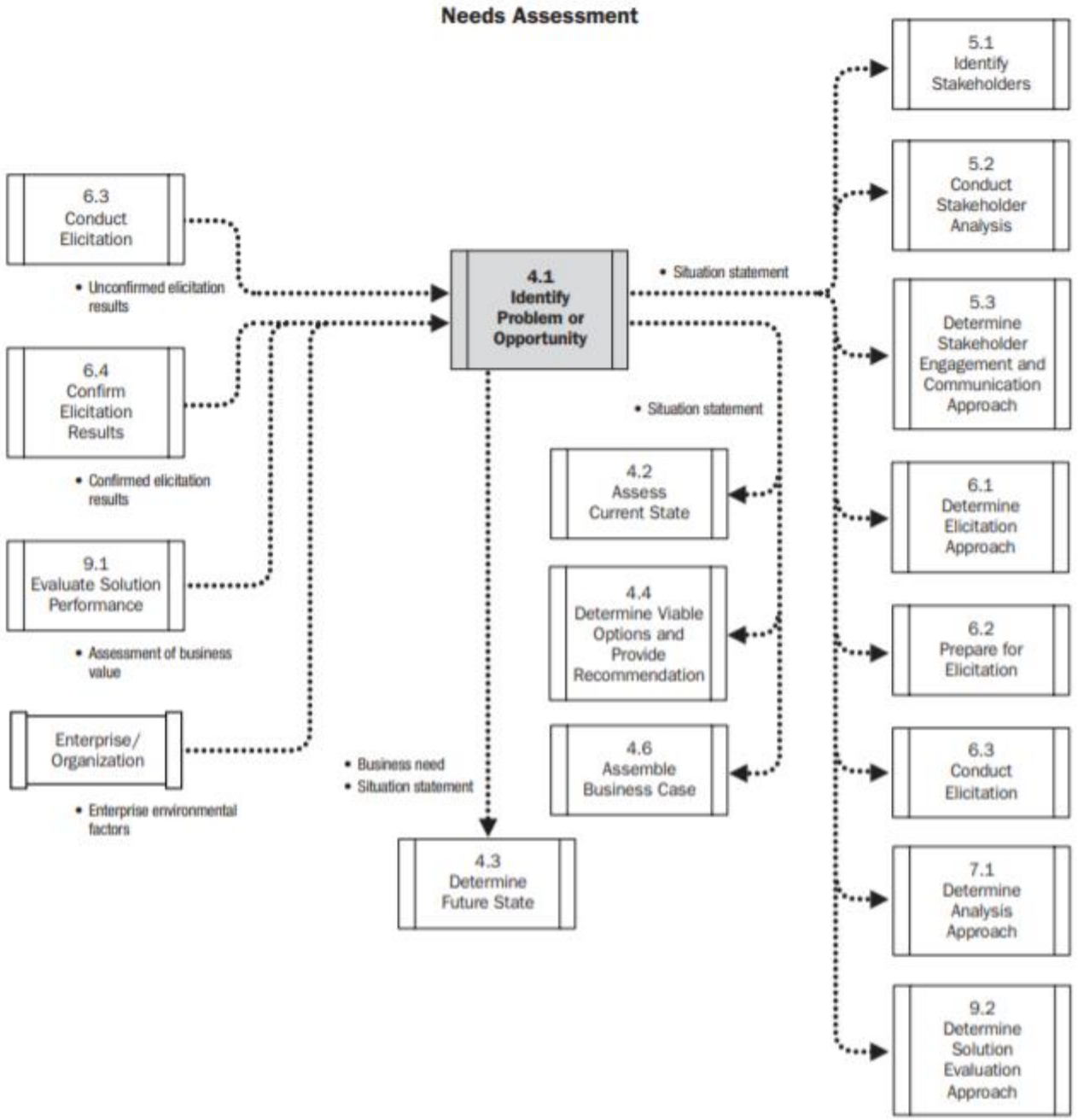
Needs Assessment

Identify Problem or opportunity

- **Definition**: Identify Problem or Opportunity is the process of identifying the problem to be solved or the opportunity to be pursued.
- **key benefit:** of this process is the formation of a clear understanding of the situation that the organization is considering to address. If the problem or opportunity is not thoroughly understood, the organization may pursue a solution that does not address the business need.
- **Process Group**: Defining and Aligning process group
- The inputs, tools and techniques and outputs for this process are shown in figure below.

Knowledge Area	Process Group
Needs Assessment	Defining and Aligning
Stakeholders Engagement	Initiating
Elicitation	Planning
Analysis	Executing
Traceability and Monitoring	Monitoring and Controlling
Solution Evaluation	Releasing

Data Flow Diagram



Needs Assessment

Identify Problem or opportunity

- Part of the work performed within Needs Assessment is to identify the problem being solved or the opportunity that needs to be addressed. To avoid focusing on the solution too soon, emphasis is placed on understanding the current environment and analyzing the information uncovered.
- Various types of elicitation are performed to draw out sufficient information to fully identify the problem or opportunity. Once there is a broad understanding of the situation, it is necessary to elicit relevant information to understand the magnitude of the problem or opportunity.
- Lack of data can result in proposing solutions that are either too small or too large compared to the problem at hand. This process occurs in conjunction with **Conduct Elicitation**, as much of the information needed to identify the problem or opportunity is obtained through effective elicitation.
- Once the problem is understood, a **situation statement** is drafted by documenting the current problem that needs to be solved or the opportunity to be explored. Drafting a situation statement ensures a solid understanding of the problem or opportunity that the organization plans to address. The situation statement is reviewed and approved with key stakeholders to ensure that the solution team has correctly assessed the situation.

Needs Assessment

Identify Problem or opportunity

Inputs

1. **Assessment of Business Value**. In business analysis, **business value** refers to the time, money, goods, or intangibles in return for something exchanged. Business analysis involves reviewing implemented or partially implemented solutions to assess whether the business value that the organization expected to provide is being delivered.

   - The assessment of business value, when negative, is used to determine whether a **problem** exists and to what severity. When the business value exceeds the value that was expected, the situation that is analyzed is considered an **opportunity** because the organization can pursue it to further enhance the positive results being received.

2. **Elicitation results** consist of the business analysis information obtained from elicitation activities. Results of prior discussions can take many forms, such as sketches, diagrams, models, and notes on flipcharts, sticky notes, or index cards. Past results of prior discussions and elicitation activities may be used as a starting point to learn enough about the situation to adequately understand the context of the problem or the opportunity being investigated.

Needs Assessment

Identify Problem or opportunity

3. **Enterprise Environmental Factors**. EEFs are conditions, not under the immediate control of the team, that influence, constrain, or direct the portfolio, program, or project.

- While performing Needs Assessment activities, including researching an existing problem or opportunity, a variety of EEFs may be reviewed to better understand the situation being investigated. Some examples include:

- **Contractual restrictions** that can impose relationships with vendors or third-party suppliers that might be factors contributing to an existing problem;
- **Legal and governing restrictions**, such as federal, state, local, and international laws and industry standards, that can impose constraints or additional requirements;
- **Marketplace conditions** that may pose issues that impede the chance of success with a current product, such as shifting competitor attitudes or the image of the organization in the marketplace;
- **Social and cultural influences** that can impact customer buying habits, imposing positive or negative impacts on the products being offered; and
- **Stakeholder expectations and risk appetite** that may influence the solution options.

Needs Assessment

Identify Problem or opportunity

Tools and Techniques

1. **Benchmarking** is a comparison of an organization's practices, processes, and measurements of results against established standards or against what is achieved by a "best in class" organization within its industry or across industries.

- The objective is to obtain insights into how successful organizations perform. Benchmarking results can be used to identify areas where organizational performance requires improvement. Benchmarking is not a technique unique to the business analysis profession, but it is one in which business analysis skills are used to analyze the results
- The business analyst should attempt to measure the size of a problem or opportunity to help determine an appropriately sized solution. When data cannot be feasibly collected or insufficient information exists within an organization to understand a current state, **benchmarking** results may be used to provide information.

2. **Competitive analysis** is a technique for obtaining and analyzing information about an organization's external environment. Results of competitive analysis may identify competitor strengths that impose threats or may uncover an area of weakness an organization has in comparison to its competition.

Needs Assessment

Identify Problem or opportunity

- Discoveries may identify gaps where customer needs are not being met or are being completely overlooked, providing an opportunity to develop products to address the void or identify new markets for existing products. Competitive analysis is a component of market analysis.

3. **Document analysis** is an elicitation technique used to analyze existing documentation to identify information relevant to the requirements. While identifying problems or opportunities, this technique involves reviewing information relevant to the business need.

- For example, strategic goals and objectives, performance goals and results, customer survey results, documentation about current processes, and business rules might be analyzed. The objective is to identify and review the most relevant information to support analysis efforts when determining the problem or opportunity

4. **Interviews** are a formal or informal approach to elicit information from individuals or groups of stakeholders by asking questions and documenting the responses provided by the interviewees. Interviews with key stakeholders can produce a wealth of information to support the identification of a problem or opportunity.

Needs Assessment

Identify Problem or opportunity

5. **Market analysis** is a technique used to obtain and analyze market characteristics and conditions for the organization's market area and then overlay this information with the organization's plans and projections for growth. Information pertaining to any number of characteristics can be researched—for example, market size, trends, growth rates, customers, products, distribution channels, opportunities, threats, and many others.

- The information obtained is used by the organization in decision making, specifically to influence decisions regarding investments in future products. Market analysis results can be used to support strategic planning initiatives and provide context for future elicitation.

6. **Prototyping** is a method of obtaining early feedback on requirements by providing a model of the expected solution before building it. When identifying problems or opportunities, this technique is useful to learn and discover what is valuable from the perspective of the customer.

- Low-fidelity prototyping, using models that provide a visual representation of what may eventually evolve into a product's design, may be particularly valuable for identifying problems and opportunities in projects using an adaptive approach to development.

Needs Assessment

Identify Problem or opportunity

Outputs

1. A **business need** is the impetus for a change in an organization, based on an existing problem or opportunity. It provides the rationale for why organizational changes are being proposed and why a new portfolio component, program, or project is being considered. Once clearly defined, it is used to provide context when discussing the future state, solution options, and business requirements.
2. In business analysis, a **situation statement** is an objective statement of a problem or opportunity that includes the statement itself, the situation's effect on the organization, and the resulting impact. The situation statement provides a concise format for presenting the problem or opportunity statement.

Needs Assessment

Identify Problem or opportunity

Tailoring Considerations

Aspects to Be Tailored	Typical Adaptive Considerations	Typical Predictive Considerations
Name	**Identify Problem or Opportunity**	
Approach	Performed prior to portfolio, program, or project initiation during an early planning iteration; the degree to which Needs Assessment is formally performed depends upon organizational, cultural, environmental, market, and/or regulatory constraints.	Performed prior to portfolio, program, or project initiation, Needs Assessment is performed as a more formal process where the situation statement is drafted, reviewed, and approved.
Deliverables	Adaptive projects often create a brief statement of project intent. In whatever format it takes, the statement of intent typically states the business objectives, value propositions, benefits, goals, milestones, customers and partners, etc., that were identified as part of a strategic planning effort and are part of the project. It may also include very high-level user epics that are later broken down into user stories when the story is selected as a feature of a release. Situations involving higher risk or in regulated industries may require a documented situation statement.	Documented situation statement. Any models needed to assess the situation.

Collaboration Point

- All levels of management can serve as sources of information to provide the context and history behind a problem or opportunity. These managers can also remove barriers that stand in the way of gaining access to other key stakeholders who hold needed information.

Needs Assessment

Assess Current State

- **Definition**: Assess Current State is the process of examining the current environment under analysis to understand important factors that are internal or external to the organization, which may be the cause or reason for a problem or opportunity
- **Key benefit** of this process is that it provides a sufficient understanding of the existing state of the organization, providing context for determining which elements of the current state will remain unchanged and which changes are necessary to achieve the future state
- **Process Group**: Defining and Aligning process group
- The inputs, tools and techniques and outputs for this process are shown in figure below.

Knowledge Area	Process Group
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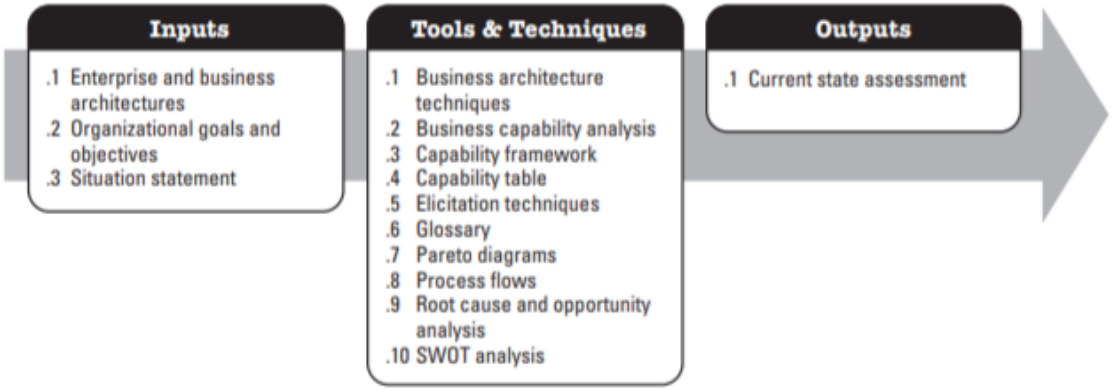
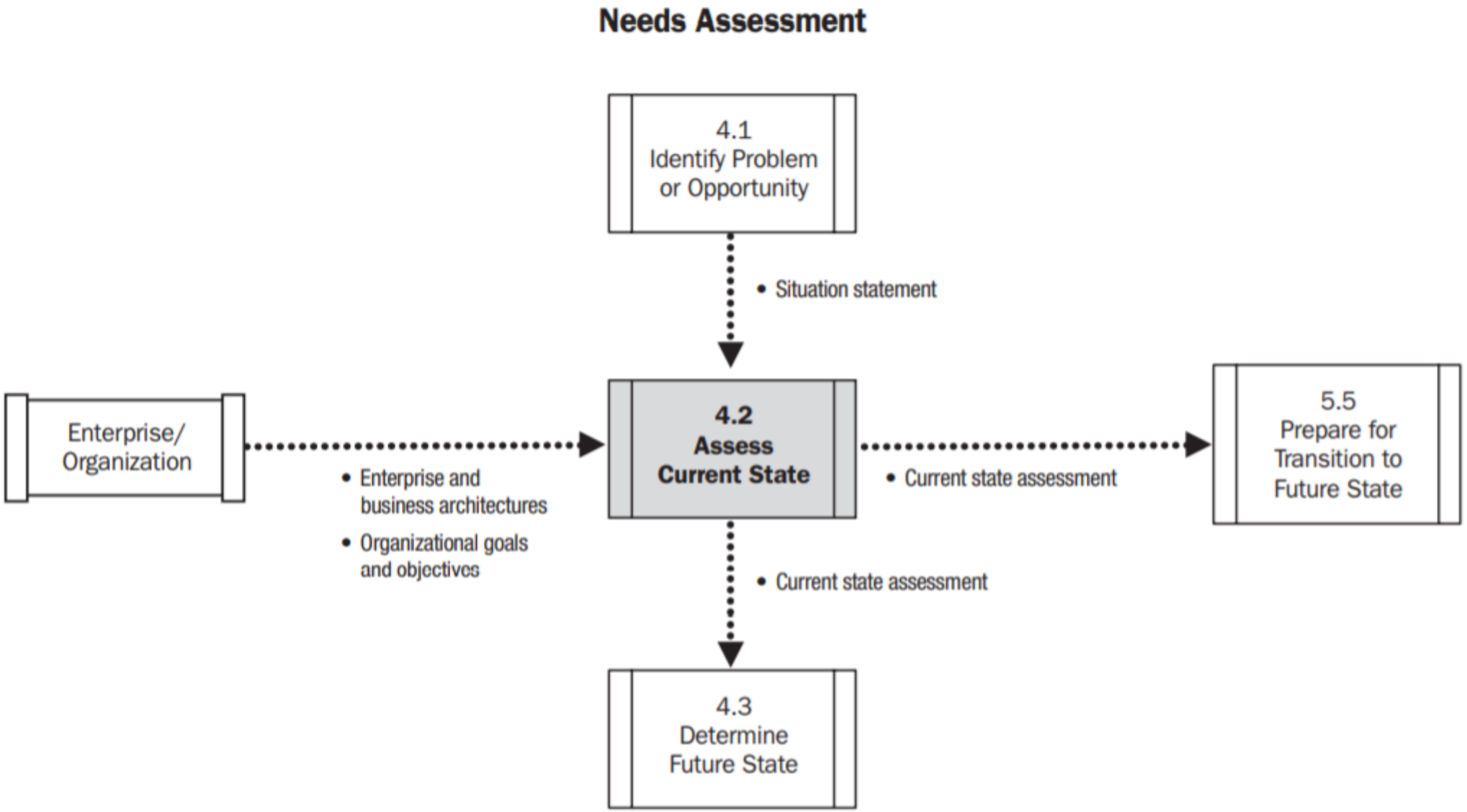


Data Flow Diagram



Needs Assessment

Assess Current State

- Assessing the current state involves researching and analyzing various aspects of the existing organizational environment to understand a situation of concern or interest to the business. The area of analysis may involve a portfolio, program, or project; a department or business unit within the organization; an aspect of the competitive environment; a particular product; or any number of other areas.
- Various factors can be analyzed, such as the **organizational structure**, **current capabilities**, **culture**, **processes**, **policies**, **enterprise and business architectures**, **capacities** such as human resources and capital, and external factors.

- Evaluating the current capabilities of the organization is a significant focus during a current state assessment. A capability is a function, process, service, or other proficiency of an organization. Capabilities enable an organization to achieve its strategy.
- Current state assessments are performed to learn enough about the problem or opportunity to adequately understand the situation without the need for conducting a full analysis of requirements. Information about the current state may be obtained through various elicitation methods such as document analysis, interviews, observation, and surveys.

Needs Assessment

Assess Current State

- Business analysis activities should be focused on analyzing the areas relevant for defining the **situation statement** and should be careful not to lead to analysis of areas that are out of scope or not helpful for the eventual definition of the **future state**.

Inputs

1. **Enterprise and Business Architectures**. Enterprise architecture is a collection of business and technology components needed to operate an enterprise. Enterprise architecture is assembled in the form of a schematic or model. Models can be analyzed to understand the strategic and operational impacts that a change will have on various aspects of the enterprise.

- **Business architecture** is a subset of the enterprise architecture and contains components such as the business functions, organizational structures, locations, and processes of an organization, including documents and depictions of those elements.
- Enterprise and business architectures are a fundamental input into the current state assessment because they visually and holistically depict different aspects of the enterprise and organizational structures that need to be understood for future business analysis work

Needs Assessment

Assess Current State

2. **Organizational Goals and Objectives**. Organizational goals define the measurable targets that a business establishes in order to deliver on its strategy. Organizational objectives are the statements aimed at directing the actions of the organization to reach its goals.
   - **Goals** are typically broad based and span one or more years. **Objectives** enable goals, are more specific, and tend to be of shorter term, often with durations of 1 year or less. Goals and objectives provide criteria that are used when making decisions regarding which programs or projects are best pursued.

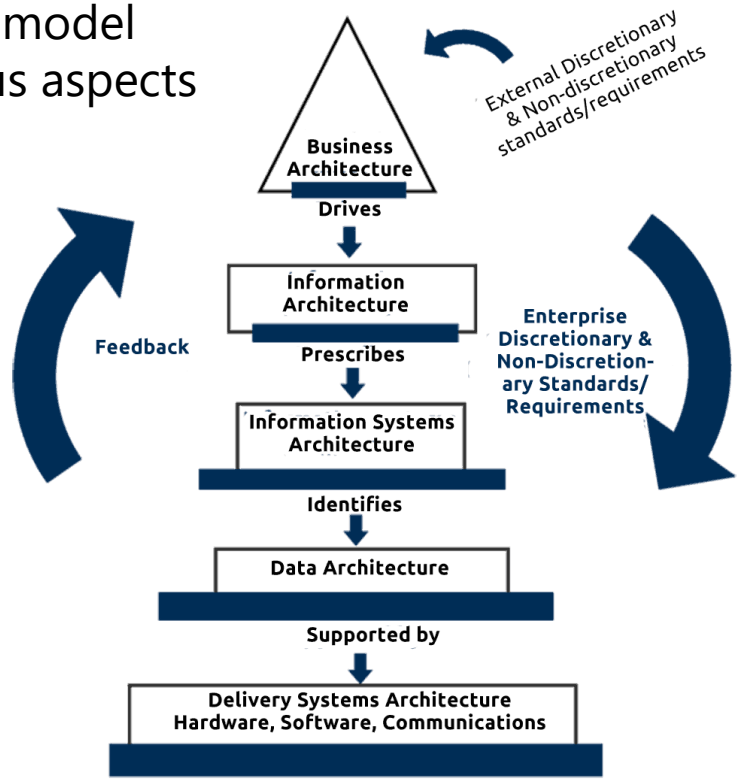
   - Existing organizational goals and objectives may be reviewed as part of the current state analysis. Organizational goals and objectives are often revealed in internal corporate strategy documents and business plans.
3. **Situation Statement**. The situation statement provides an objective statement about the problem or opportunity the business is looking to address, along with the effect and impact the situation has on the organization. The assessment of the current state is compared against the situation statement to determine the impact of a problem or opportunity on the existing organizational environment.

Needs Assessment

Assess Current State

Tools and Techniques

1. **Business architecture techniques** are organizational frameworks available to model business architecture, each providing different approaches for analyzing various aspects of the business.
   - These models can serve as checklists, frameworks, or job aids for assessing the current state and can be used to guide strategy decisions within the organization, specifically at the portfolio and program levels.
2. **Business capability analysis** is a technique used to analyze performance in terms of processes, people skills, and other resources used by an organization to perform its work. Historical data obtained from analyzing current capabilities are used to understand trends and determine what measures will be helpful guidelines for determining whether a capability is performing as it should be in the current state.



Needs Assessment

Assess Current State

- The historical data are used to establish performance standards by which current and future performance is evaluated. In the current state, the objective is to determine a specification by which business capabilities can be assessed and performance measured and monitored on an ongoing basis. In the future state, this specification can be used to establish a benchmark for future performance.

3. **A capability framework** provides a set of descriptions about the key skills, knowledge, behaviors, abilities, systems, and overall competencies of value to an organization. The capabilities analyzed can be for people or products.

- Capability frameworks may include information about physical, financial, informational, or intellectual capabilities. Some capabilities are available because of the availability of assets that support them.
- Capability frameworks may contain information about the competencies that enable the organization to operate today and may be used as a starting point when performing a gap analysis to identify the capabilities needed to achieve the future state.
- There are many different formats for presenting capability information; Following tables show two ideas for people- and product-focused discussions.

Needs Assessment

Assess Current State

Capability Framework Sample Format for Analyzing People Capabilities

Capability Framework—Business Analysis Job Family					
Business Analyst	**Entry Level**	**Intermediate**	**Senior I**	**Senior II**	**Senior III**
Capability 1	Describes how an individual demonstrates the capability at each level				
Capability 2					
Capability 3					

Needs Assessment

Assess Current State

Capability Framework Sample Format for Analyzing Product Capabilities

Categories to Be Measured	Maturity Levels				
	Level 0	Level 1	Level 2	Level 3	...
People	<criteria about people resources>				
Process	<criteria about process and methodology>				
Technology	<criteria about technology or tools>				

Needs Assessment

Assess Current State

4. **Capability tables** are used for analyzing capabilities in a current or future state. Within future-state analysis, the model can be used to display the capabilities needed to solve a problem or seize an opportunity.

- The technique can be applied to depict the relationship between a situation, its root causes, and the capabilities needed to address the situation. The model can provide an easy way to visualize current problems, the associated root causes, and the proposed new capabilities or features that if pursued, could address the problem. Today, different forms of capability tables exist

Problem/Current Limitations	Root Cause(s)	New Capability/Feature
Problem #1	1st root cause for problem #1	• New capability • New capability
	2nd root cause for problem #1	• New capability
	3rd root cause for problem #1	• New capability
Problem #2	1st root cause for problem #2	• New capability • New capability
	2nd root cause for problem #2	• New capability

Needs Assessment

Assess Current State

5. **Elicitation techniques** are used to draw information from various sources. Information about the current state may be obtained through various elicitation methods. A few common techniques that are effective during current state analysis are document analysis, interviews, observation, and questionnaires and surveys:

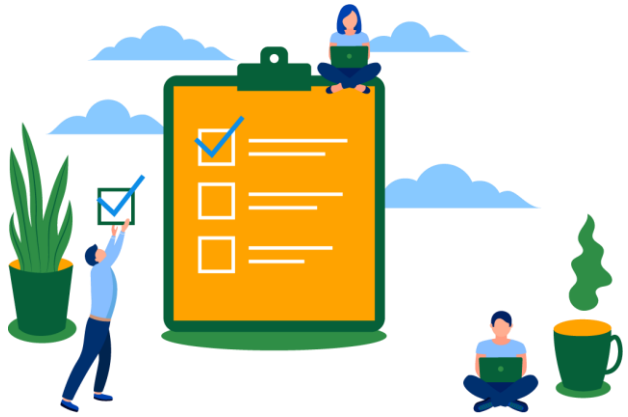
a. **Document analysis**. An elicitation technique used to analyze existing documentation and identify relevant product information. Many documents found within an organization can provide relevant information about the current state, such as training materials, product literature, standard operating procedures, or deliverables from past projects

b. **Interviews**. A formal or informal approach to elicit information from stakeholders. Interviews can be scheduled with various stakeholders who possess key information about the current state, such as the users of an existing solution or participants in existing processes where problems have been identified.

c. **Observation**. An elicitation technique that provides a direct way of eliciting information about how a process is performed or a product is used, by viewing individuals in their own environment performing their jobs or tasks and performing processes.

Needs Assessment

Assess Current State



d. **Questionnaires and surveys**. Written sets of questions designed to quickly accumulate information from a large number of respondents. Surveys can be developed to elicit information about the current state— for example, areas where customers or business stakeholders may wish to see improvements or have concerns or existing problems.

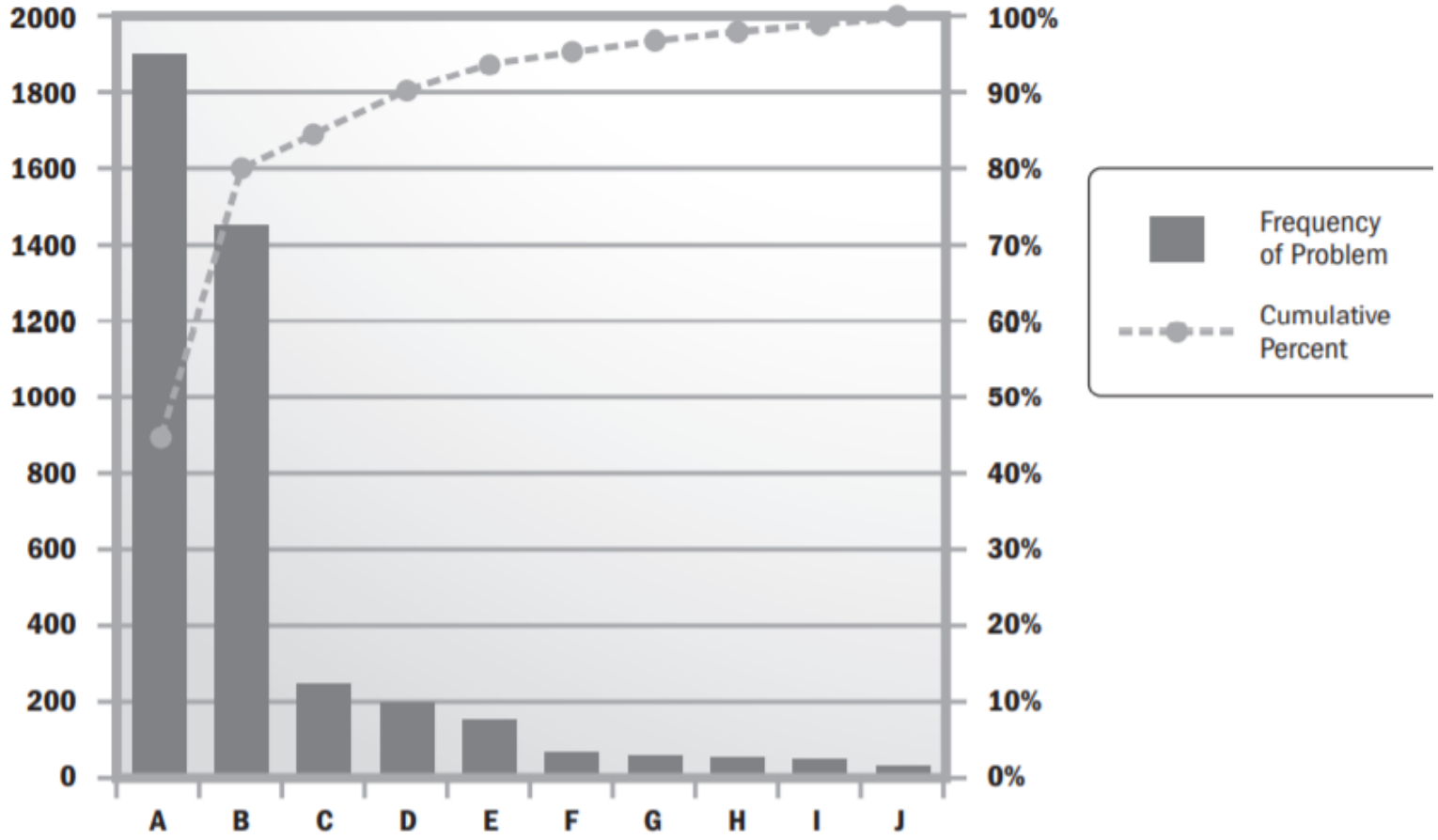
6. **Glossary.** In business analysis, a glossary provides a list of definitions for terms and acronyms about a product. A glossary should be started as early as possible in portfolio, program, or project analysis to support common language; therefore, it is a technique that is commonly started with needs assessment activities.

7. **A Pareto diagram** is a histogram that can be used to communicate the results of root cause analysis. Pareto diagrams are a special form of vertical bar chart used to emphasize the most significant factor among a set of data. The vertical axis can depict any category of information that is important to the product team, such as cost or frequency, or consequences such as time or money. The horizontal axis can display the categories of data being measured— for example, types of problems or cause categories.

Needs Assessment

Assess Current State

- The data results are displayed in descending order, which easily draws attention to the problems, causes, or costs that have the greatest significance and thereby require the most attention. The format of a Pareto diagram helps demonstrate the 80/20 principle whereby 80% of problems can be related back to 20% of the causes.



Needs Assessment

Assess Current State

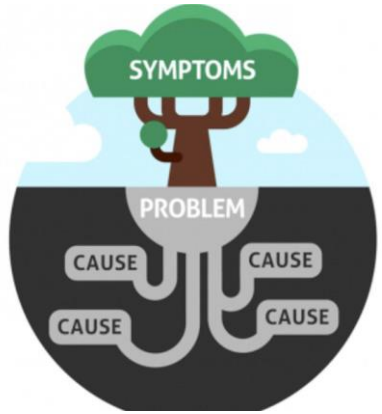
8. **Process flows** describe business processes and the ways stakeholders interact with those processes. Process flows can be used to document current as-is processes of the business. The diagrams provide visual context for discussions with stakeholders and the product team about how the existing environment performs its work.

- The models can also be used to analyze the ways in which a process contributes to a given problem. Value stream maps—a variation of process flows—can be used to identify process steps that add value (value stream) and those that do not add value (waste). The information can be used to identify areas where a process might be streamlined to eliminate inefficiencies

9. **Root Cause and Opportunity Analysis**. Once a situation is discovered, documented, and agreed upon, it needs to be analyzed before being acted upon. After the problem to be solved or the opportunity to pursue has been agreed upon, the problem or opportunity can be broken down into either the root causes or opportunity contributors so that a viable and appropriate solution can be recommended.

Needs Assessment

Assess Current State



- Two techniques commonly used to perform this analysis are the following:

a. **Root cause analysis**. Techniques used to determine the basic underlying reason for a variance, defect, or risk. When applied to business problems, root cause analysis can be used to discover the underlying causes of a problem so that solutions can be devised to reduce or eliminate them.

b. **Opportunity analysis**. Techniques used to study the major facets of a potential opportunity to determine the possible changes in products offered to enable its achievement. Opportunity analysis may require additional work to study the potential markets an organization may consider entering.

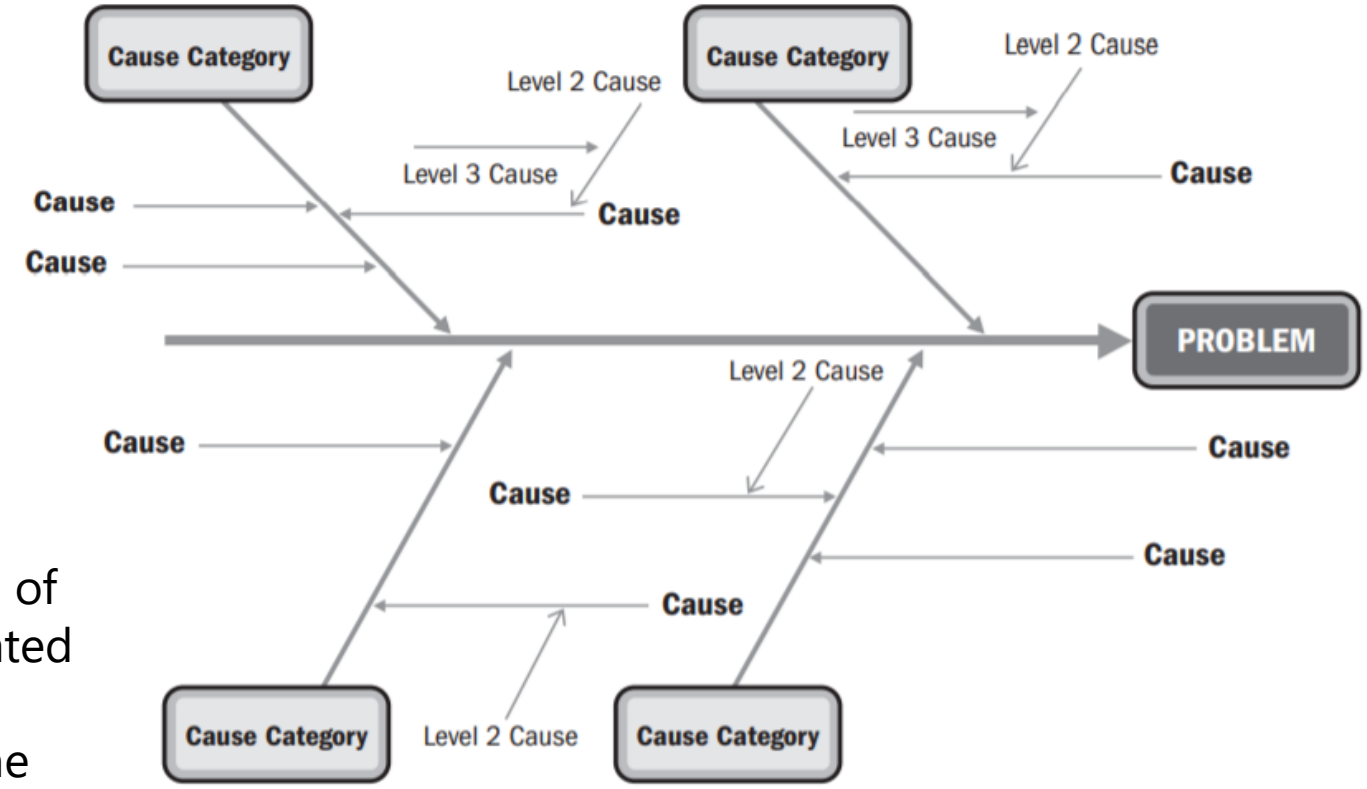
- Several techniques can be used to analyze root causes and opportunities, including the following:

c. **Fishbone diagram**. A version of a cause-and-effect diagram used to depict a problem and its root causes in a visual manner. These diagrams are snapshots of the current situation and high-level causes of why a problem is occurring. They help trace the undesirable effects of issues back to their root causes. Use of this technique helps the product team avoid jumping to a solution without understanding the true causes of why an issue is occurring.

Needs Assessment

Assess Current State

- The fishbone diagram uses a fish image, where the problem (effect) is listed at the head and the causes and subcauses of the problem are placed on the bones of the fish. Causes are grouped into categories and each grouping branches off from the backbone of the fish. Category names are placed in rectangular boxes to easily identify the groupings

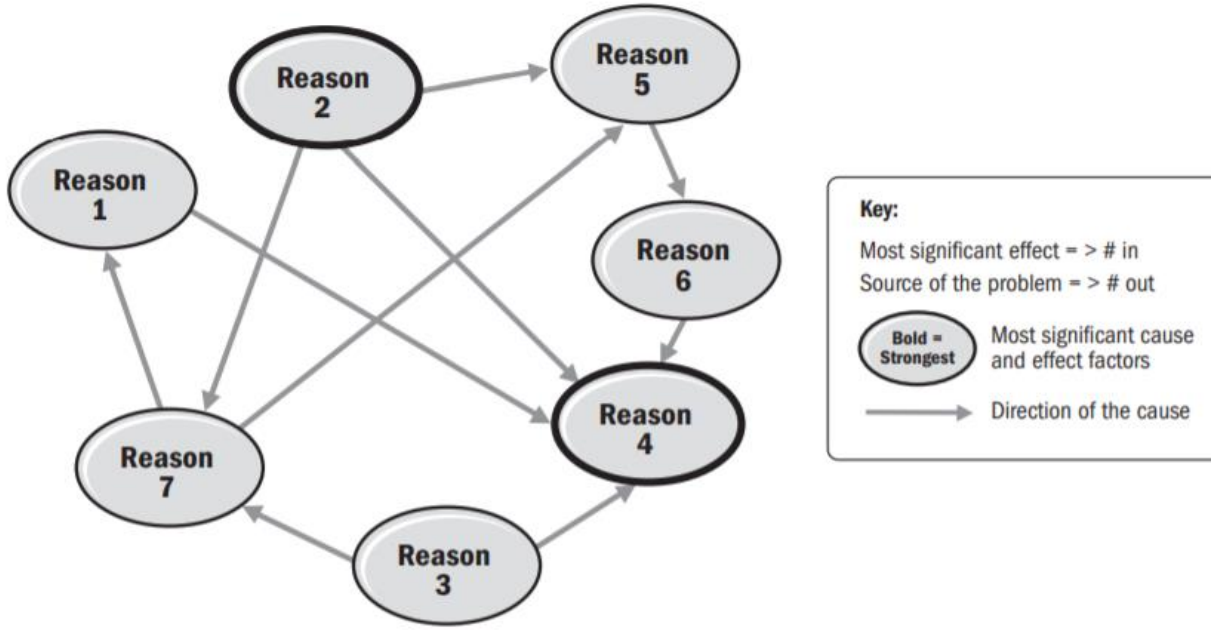


d. Interrelationship diagram. A special type of cause-and-effect diagram that depicts related causes and effects for a given situation. Interrelationship diagrams help uncover the most significant causes and effects involved in a situation.

Needs Assessment

Assess Current State

- Constructing an interrelationship diagram helps participants isolate each dimension of a problem individually without using a strict linear process. Focusing on the individual dimension allows participants to concentrate on and analyze manageable pieces of a situation. When the analysis is complete, the diagram sheds considerable light on the problem, but only after the entire diagram has been assembled



e. Five-Whys. A technique that suggests anyone trying to understand a problem needs to ask why it is occurring up to five times in order to thoroughly understand the problem's causes. The technique does not advocate having a person literally ask the participant the question "Why?" five times; rather, it promotes ongoing questioning to engage the participant in deeper levels of discussion provoked by more targeted questioning.

Needs Assessment

Assess Current State

10. **SWOT analysis** is a technique for analyzing the strengths (S) and weaknesses (W) of an organization, project, or option, and the opportunities (O) and threats (T) that exist externally.

- SWOT is a widely used tool to help understand high-level views surrounding a business need. SWOT can be used to create a structured framework for breaking down a situation into its root causes or contributors.
- SWOT investigates the situation internally and externally as follows:

- **Internally:**

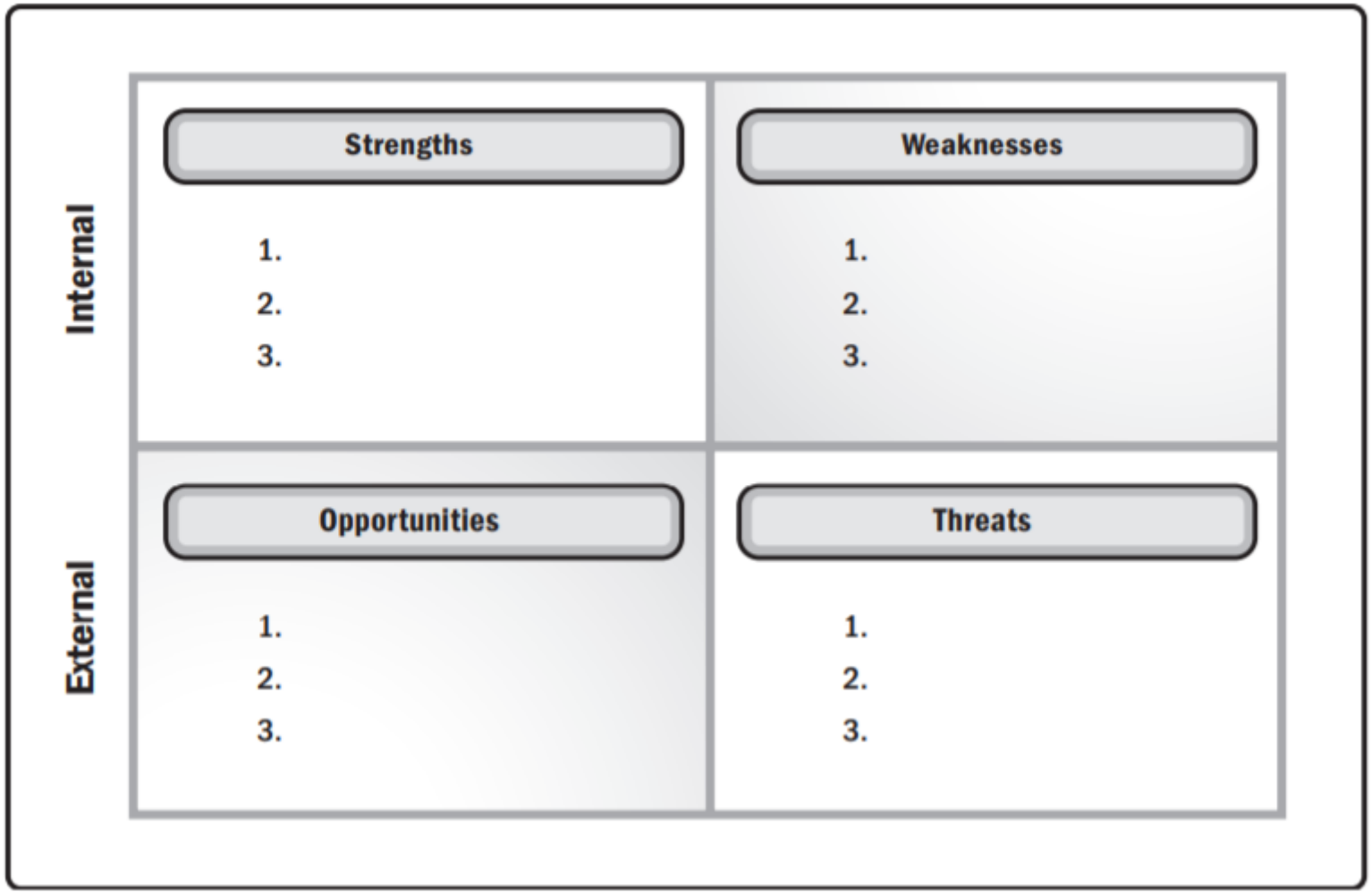
1. Shows where the organization has current strengths to help solve a problem or take advantage of an opportunity.
2. Reveals or acknowledges weaknesses that need to be alleviated to address a situation.

- **Externally:**

1. Identifies potential opportunities in the external environment to mitigate a problem or seize an opportunity.
2. Shows threats in the market or external environment that could impede success in addressing the business need

Needs Assessment

Assess Current State



Needs Assessment

Assess Current State

Outputs

1. The **current state assessment** is an understanding of the current mode of operations, or the as-is state of the organization. It is a culmination of the analysis results obtained from examination of the existing organizational environment.

- Typical information captured during the analysis of the current state might be a high-level overview of the existing business context. Examples include models and textual descriptions about existing business processes, key stakeholders, enterprise and business architectures, existing products, and how these items are impacted by the problem or opportunity presented in the situation statement.

- A current state assessment may be nothing more than an understanding of the current state and may not necessarily include formalized documentation. Based on the size of the problem, the type and complexity of the project and industry, and various other factors, it may not be necessary to document the results of the current state assessment.

Needs Assessment

Assess Current State

Tailoring Considerations

Aspects to Be Tailored	Typical Adaptive Considerations	Typical Predictive Considerations
Name	Not necessarily a formally named process; performed as part of initial planning or iteration 0.	Assess Current State (or as-is analysis)
Approach	As-is analysis can be performed throughout the project, as each iteration may focus the as-is discussion on a slice of the overall context. The as-is environment will continue to change, and therefore, will need to be continually assessed to understand how changes in the current state might impact proposed work within the backlog.	As-is analysis is performed up front as a starting point to provide context for future business analysis work. If a recent current state assessment is available, it may be possible to leverage historical information and avoid conducting another current state assessment.
Deliverables	Just enough modeling in order to move forward on discussions regarding the future state. The scope of analysis and, hence, the deliverables are focused on the context necessary for the early iterations of development work or to provide context when developing a lightweight business case.	As-is models may be completed to a detailed level. Models constructed may cover the entire problem space up front before requirements elicitation begins. May include models produced in a process modeling tool. The information assembled from the current state assessment may be packaged into a current state assessment document leveraging a standardized template.

Collaboration Point

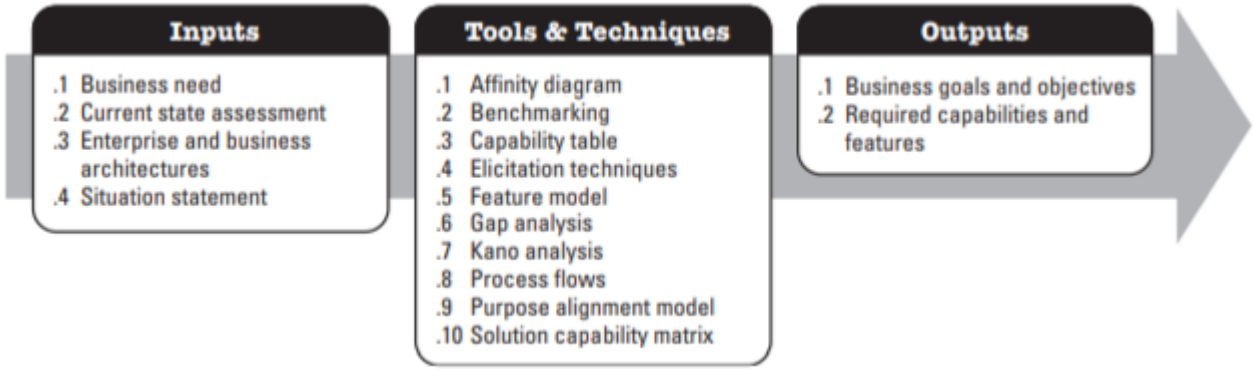
- Business stakeholders contribute deep business knowledge and provide a holistic view of the current state, including historical information that the business analyst needs to start the current state assessment.

Needs Assessment

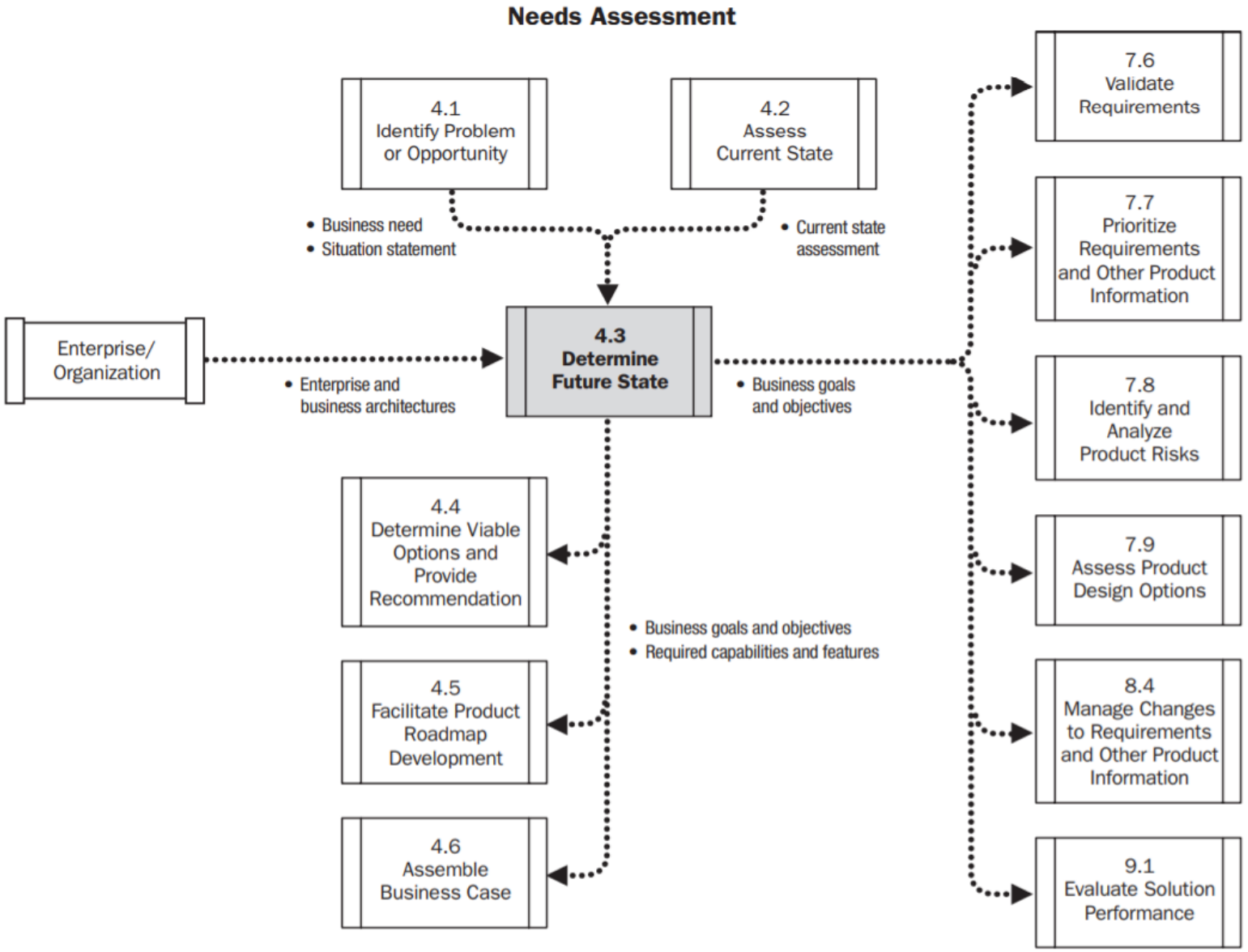
Determine Future State

- **Definition**: Determine Future State is the process of determining gaps in existing capabilities and a set of proposed changes necessary to attain a desired future state that addresses the problem or opportunity under analysis.
- **Key benefit** of this process is the resulting identification of a set of capabilities required for the organization to be able to transform from the current state to the desired future state and satisfy the business need.
- **Process Group**: Defining and Aligning process group
- The inputs, tools and techniques and outputs for this process are shown in figure below.

Knowledge Area	Process Group
Needs Assessment	Defining and Aligning
Stakeholders Engagement	Initiating
Elicitation	Planning
Analysis	Executing
Traceability and Monitoring	Monitoring and Controlling
Solution Evaluation	Releasing



Data Flow Diagram



Needs Assessment

Determine Future State

- Determining the future state involves conducting further elicitation and analysis **to define the changes necessary to address the business need to determine which existing capabilities** should remain or which new capabilities should be added.
- For more complex situations, like those that span various departments or divisions or involve a highly sophisticated product, the future state may involve adding a combination of new capabilities, including process changes, new machinery, highly skilled staff, physical plants or properties, new training initiatives, new or enhanced IT systems, or a completely redesigned product and determining how to integrate these new elements with existing capabilities

- The future state may involve:
  1. New work that the organization will take on;
  2. Outsourcing to acquire capabilities that the organization cannot obtain on its own;
  3. Applying existing resources in a different manner; or
  4. Combinations of enhanced, new, or acquired capabilities

Needs Assessment

Determine Future State

Inputs

1. **Business need** is the impetus for the change an organization will undertake to address an existing problem or opportunity. The business need guides the business goals and objectives of the future state. It provides the rationale for why the organization desires the change. The business need provides relevant data needed to formulate the desired future state.
2. **Current State Statement**. Provides the foundational information about the current environment that becomes the starting point from which the future state is based.

- The current state assessment may include information regarding different aspects about the current environment that can be referenced when determining which changes will be necessary to address the problem or opportunity. Before recommending new capabilities, a review of the existing capabilities occurs to understand the starting point or baseline from which the product team is working.

3. **Enterprise and business architectures.** Architecture frameworks provide information about the current state that can be used as a starting point for discussions about the future state. Enterprise and business architectures support the product team in understanding which capabilities are present today and help the team draw conclusions about which new or enhanced capabilities will be needed in the future state.

Needs Assessment

Determine Future State

4. **Situation Statement**. Provides a context for understanding the problem or opportunity that exists today. It is the starting point from which the future state can be built. The future state is designed to solve or address the problem/opportunity the organization is addressing.

Tools and Techniques

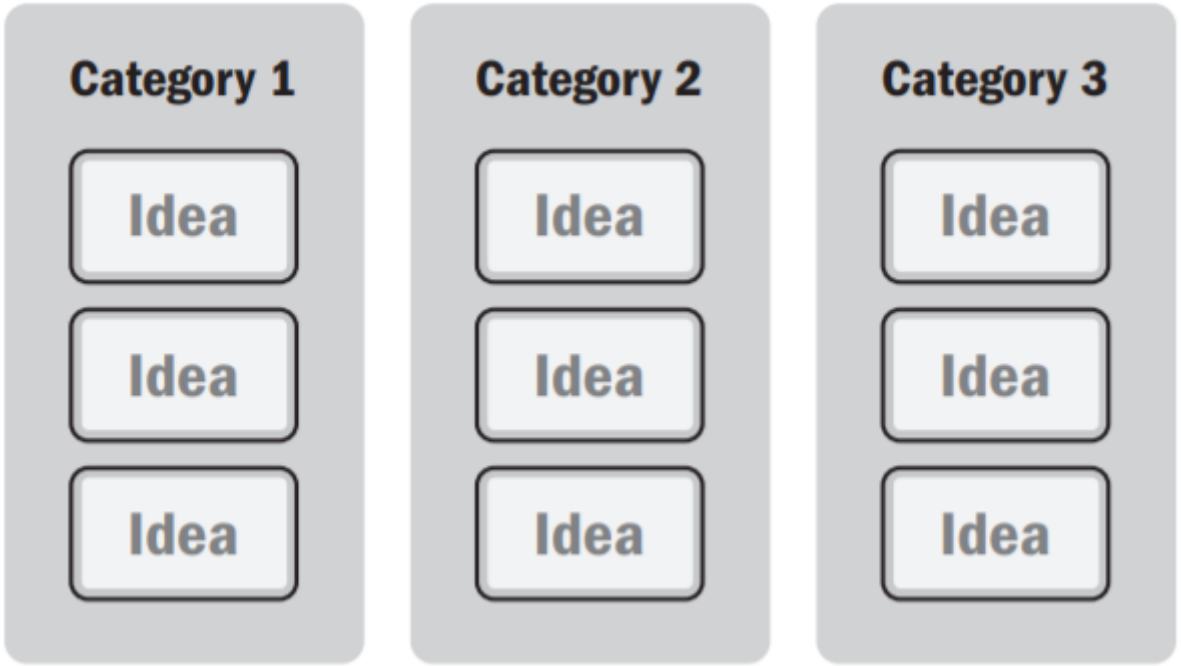
1. **Affinity Diagram**. As future state discussions begin, various capabilities might be proposed for addressing the problem or opportunity under analysis. Future state considerations begin at a broad level. Through ongoing exploration and communication, the product team sifts through different ideas and alternatives. These might be discovered through brainstorming, a companion technique to the affinity diagram.

- Affinity diagrams display categories and subcategories of ideas that cluster or have an affinity to one another. When defining future state considerations, affinity diagrams are used to process a large set of information or ideas into a manageable set of data organized by categories

Needs Assessment

Determine Future State

- For problem solving, affinity diagrams help organize related causes of a problem or opportunity. The ability to group data by a common theme allows insights to be identified that might not be possible to uncover when considering the information separately



Needs Assessment

Determine Future State

2. **Benchmarking** is a comparison technique used to compare one set of practices, processes, and measurements of results against another.

- During future state analysis, this technique provides another way to determine new capabilities by conducting a comparison against benchmarking studies of external organizations that have solved similar problems or seized opportunities that the organization is considering pursuing. Benchmarking studies often guide final recommendations to address the situation as well as highlight which recommendations not to pursue.

3. **Capability tables** relate the identified problems within the current state to their associated root causes and the capabilities required to address the problem in the future state.

- This technique is a good choice for a model to relate the information obtained during the current state analysis with the information resulting from the future state discussions. The model depicts aspects of the current state alongside the features or capabilities required to address the problem and achieve the future state.

Needs Assessment

Determine Future State

4. **Elicitation techniques** are used to draw information from different sources. Information about the future state may be obtained through various elicitation methods. A few common techniques that are effective during future state analysis include brainstorming and facilitated workshops:

a. **Brainstorming**. Used to identify a list of ideas within a short period of time. During future state analysis, the product team conducts conversations about potential capabilities that the organization might consider for addressing the situation. Brainstorming is a viable technique to help product teams create an initial list of capabilities.

b. **Facilitated workshops**. Structured meetings led by a skilled, neutral facilitator and a carefully selected group of stakeholders to collaborate and work toward a stated objective. Because facilitated workshops support interactivity, collaboration, and improved communications among participants, the technique is a viable elicitation technique for a team to use when defining the future state.

Needs Assessment

Determine Future State

5. **Feature models** provide a visual representation of all the features of a solution arranged in a tree or hierarchical structure. The strength of the model is its ability to help visually and logically group feature sets.
   - The model can be utilized to parse out groups of features or capabilities to help facilitate discussions about different future state options that the organization may wish to consider. Different versions of a feature model can be created, with each representing a possible future state alternative.
6. **Gap analysis** is a technique for comparing two entities, usually the as-is and to-be state of a business. During Needs Assessment, gap analysis is performed by examining the differences between the current and future states.
   - The current state assessment includes a thorough exploration of elements in the existing environment—for example, processes, systems, staff, and a variety of environmental factors necessary to understand how the organization operates today. The future state assessment includes an exploration of the capabilities required to address the problem or opportunity.
   - Gap analysis is performed by comparing the required capabilities against the existing capabilities and identifying the difference, or "gap." This gap refers to the missing capabilities that the organization needs to acquire to address the business need in the future state.

Needs Assessment

Determine Future State

7. **Kano analysis** is a technique used to model and analyze product features by considering the features from the viewpoint of the customer. Kano analysis can be used to help a product team understand the level of importance of features being considered for the future state.

- During Kano analysis, product features are grouped into one of five categories and plotted on a grid. The **vertical axis** is used to measure the degree of customer satisfaction that the feature will provide, and the **horizontal axis** shows how well the product is expected to satisfy or deliver the feature.
- When placing product features into the Kano categories, the grouping is determined by considering the customer's viewpoint or perception of the feature. This categorization helps the product team understand how each feature is expected to contribute to the customer's satisfaction level.
- A Kano survey is used to collect the data necessary to plot on the grid. The discoveries made during Kano analysis provide good information that the team can consider when prioritizing customer needs. A Kano model can also be used to analyze products.
- There are **five product feature** categories commonly used in a Kano model. Some organizations elect to use only the first three.

Needs Assessment

Determine Future State

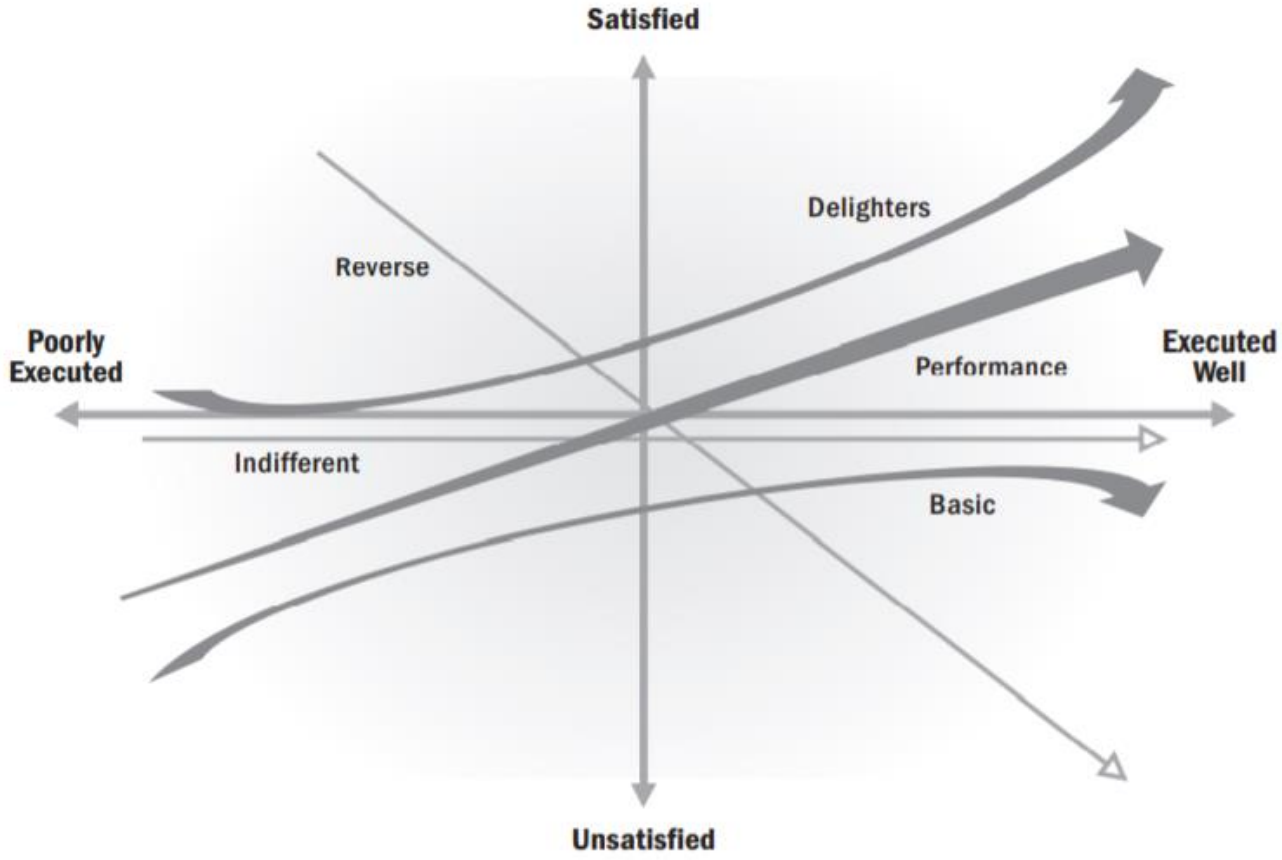
- A description of each is as follows:

1. **Basic**. Features that provide little satisfaction to stakeholders, but, when missing from the end solution, cause extreme dissatisfaction. Stakeholders do not give a lot of thought to the features in this category because it is assumed that the final solution will include them.
2. **Performance**. Features that stakeholders think about, desire, and use to consciously evaluate the final solution. These features can either satisfy or dissatisfy the stakeholder, depending on how well the solution addresses them.
3. **Delighters**. Features that differentiate the product from competitors' products and are sometimes referred to as the "wow" factor. Delighters play off of emotion. When these features are present, they provide extreme satisfaction to the stakeholder. When they are not present, typically stakeholders are not even aware that the feature is possible and the stakeholder is not consciously dissatisfied.
4. **Indifferent**. Features that neither satisfy nor dissatisfy a customer. The customer does not care whether these features are included or not. These features plot along the horizontal axis of the Kano model.
5. **Reverse**. Features that decrease a stakeholder's satisfaction level when present and increase it when excluded from the final product.

Needs Assessment

Determine Future State

- Customer perceptions can change over time. A competitor may add a similar “wow” factor to their products or improve upon a “wow” factor, which in turn will decrease the uniqueness of the original product; features that once were delighters turn into performance features, or even basic features, as customer expectations evolve.



Needs Assessment

Determine Future State

8. **Process flows** are used to depict the business processes in the current state and used as a starting point for discussions concerning the changes desired and required for the future state. Process flow modeling is a good technique for performing what-if analysis to walk through various future state scenarios with key stakeholders.

- The diagrams and flows produced during process flow modeling can be modified to reflect and analyze various future states to support decision making.

9. **The purpose alignment model** is a technique that provides a framework to support strategic or product decision making. The model can become a basis for forming decisions about which options to pursue and how to pursue them.

- The model helps a product team link business strategy to product strategy. For example, it can be used to work through features in a product backlog to determine the value a feature holds for the organization or a release. For **future state analysis**, understanding the alignment of product options with business purposes helps the product team consider different solution options and which features to address and when

Needs Assessment

Determine Future State

- At the project level, product features are placed on a quadrant matrix considering two factors: criticality and market differentiation. A product feature that is determined to be highly critical may be needed for the organization to stay in business or meet regulations.
- A product feature rated as a market differentiator may contribute to the organization's ability to gain market share, increase sales, or surpass competitor offerings. The discussions a product team works through when determining how best to position the feature on the grid promotes a shared understanding about value. The analysis provides information to help determine which features the organization should invest in.
- The four categories of purposes in the model and the actions that might be taken from a feature perspective are as follows:

1. **Differentiating**. Features in this category are mission critical and provide high market differentiation. They can help the organization gain market share, improve its competitive advantage, and outrival its competitors.

- Organizations need to continually invest in this area to excel, provide uniqueness, and stay ahead of the competition. When they do, customers will consider the organization to be an innovator.

Needs Assessment

Determine Future State

2. **Parity**. Features here help the organization maintain its parity in the marketplace. Investments in parity features may be mission critical, but they do not provide the organization with a competitive advantage. Features in this category simply ensure that the business stays on par with competitor offerings.
3. **Partner**. Features assigned here are not considered mission critical, but if provided, they would enable the organization to differentiate itself in the market. As a result, an organization will look externally for a partner company to provide these features but will not invest in these features itself. A viable partner would be an organization that today is differentiated by offering these features.
4. **Who cares**. Features in this category are neither differentiating nor mission critical to the organization. Features that end up in this category are generally not built.

Needs Assessment

Determine Future State

Needs Assessment

Determine Future State

10. **A solution capability matrix** is a model that provides a simple visual way to examine capabilities and solution components in one view, identifying where capabilities will be addressed in the new solution. When timing information is added, the product team can use the model during planning discussions to understand when different solution components are expected to be delivered.

- The matrix can be presented with capabilities listed down the left column and the components of the solution across the top. An X placed at the point of intersection between column and row indicates when the capability is covered by a component of the solution.
- Product teams can utilize a solution capability matrix to understand which capabilities are covered in the solution or a solution component. The Xs may be replaced with a version number or an iteration number if the team wishes to communicate when a capability will be addressed in the solution. Today, different forms of solution capability matrices exist

	Solution Component A	Solution Component B	Solution Component C	Solution Component D	Solution Component … *n*
Capability 1			X		
Capability 2	X				
Capability 3		X		X	
Capability 4					
Capability 5			X		
Capability … *n*					

Needs Assessment

Determine Future State

Outputs

1. **Business goals and objectives** identify what the business expects the portfolio, program, or project to deliver. Business goals and objectives align to the organizational goals and objectives, but are at a lower level because they specify stated targets that the business is seeking to achieve.

2. **The required capabilities and features** identify the list of net changes the organization needs to obtain in order to achieve the desired future state. The capabilities and features listed do not prescribe a solution. Additional analysis is still needed to determine how these capabilities and features will be delivered.

Needs Assessment

Determine Future State

Tailoring Considerations

Aspects to Be Tailored	Typical Adaptive Considerations	Typical Predictive Considerations
Name	Not a formally named process and performed as part of backlog refinement, business modeling, initial planning, or iteration 0.	Determine Future State
Approach	Teams explore the future state in slices and discuss it in terms of themes, goals, and objectives. Some organizations may take a broader or organizational viewpoint to this work. Typically, some high-level information on the future state is formed at either project initiation or as part of iteration 0, but that information is constantly evolving as new information emerges. Future state information is reviewed prior to each iteration to ensure that the capabilities required for the future state are known and understood.	To-be analysis is performed up front prior to initiating a project to understand the business goals and objectives. Results from gap analysis are understood to define required capabilities. The to-be state is fully defined and understood before moving forward on proposing viable solution approaches. The future state definition is formally documented, reviewed, and approved with the business.
Deliverables	The future state definition may be represented in lightweight documentation. Models utilized to facilitate discussions involve a low level of formality and are often developed on whiteboards or flipcharts. The future state definition is captured and made available to the team on an ongoing basis. Other deliverables may include roadmaps, story maps, and product backlog.	A future state definition can be documented within a tool or within a formal document such as a business case. Models built to assist in defining the future state are often formalized, created with a modeling tool, and archived for future reference.

Collaboration Point

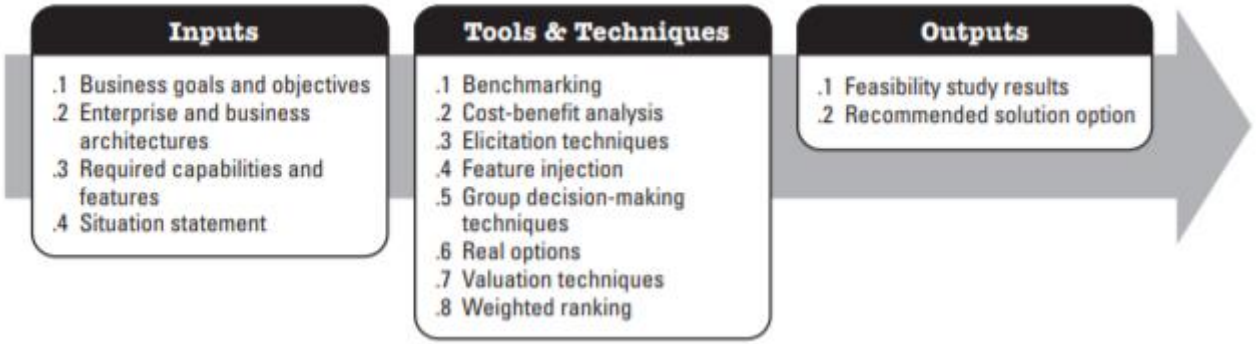
- In some organizations, the analytical resources involved in needs assessment activities may be a different team of analysts from the analytical resources who perform business analysis on the project if one is approved and initiated.

Needs Assessment

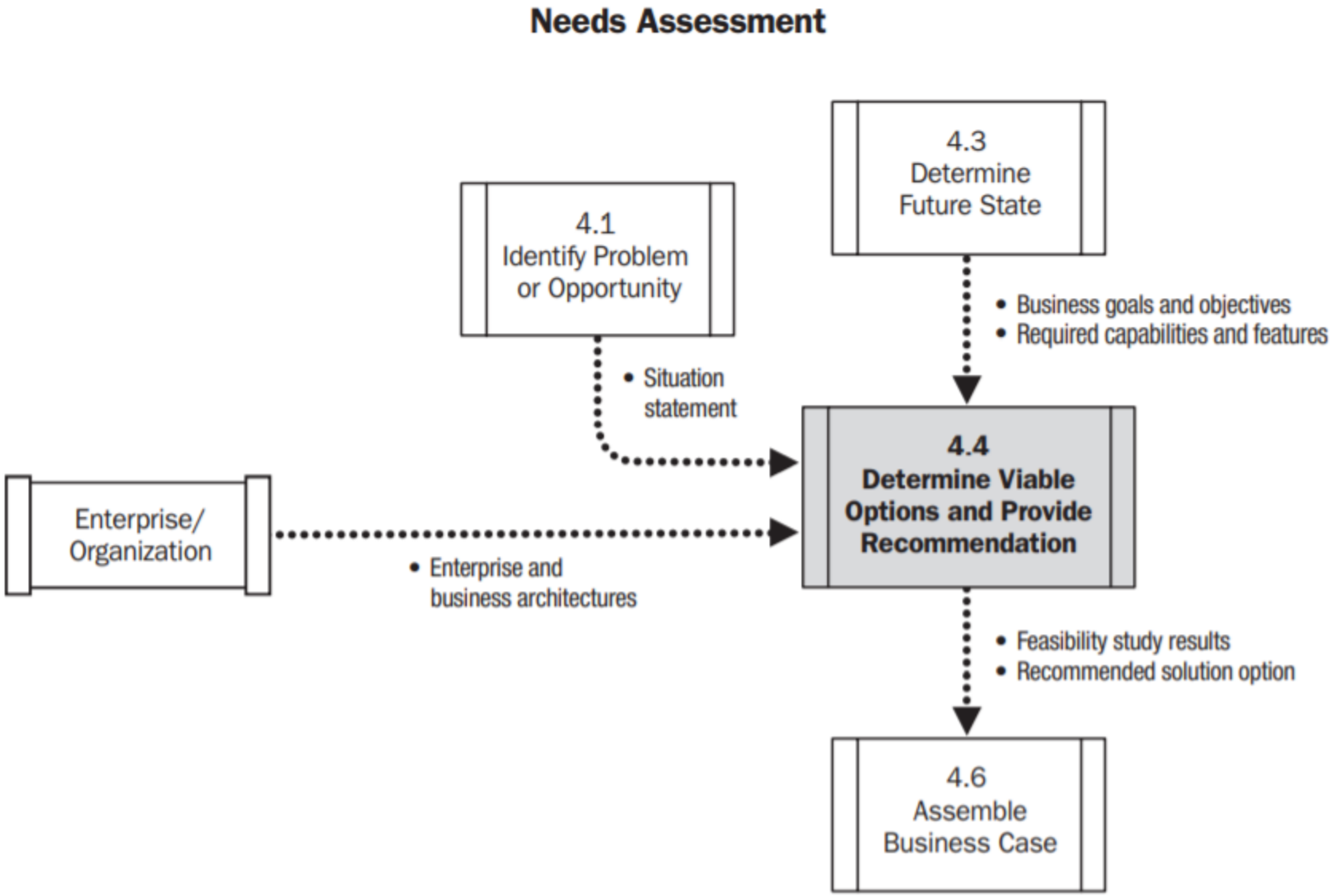
Determine Viable Options and Provide Recommendations

- **Definition**: Determine Viable Options and Provide Recommendation is the process of applying various analysis techniques to examine possible solutions for meeting the business goals and objectives and to determine which of the options is considered the best possible one for the organization to pursue.
- **Key benefit** of this process are that it validates the feasibility of proposed solutions and promotes the best course of action for executives and decision makers to meet the business goals and objectives.
- **Process Group**: Defining and Aligning process group
- The inputs, tools and techniques and outputs for this process are shown in figure below.

Knowledge Area	Process Group
Needs Assessment	Defining and Aligning
Stakeholders Engagement	Initiating
Elicitation	Planning
Analysis	Executing
Traceability and Monitoring	Monitoring and Controlling
Solution Evaluation	Releasing



Data Flow Diagram



Needs Assessment

Determine Viable Options and Provide Recommendations

- Determining viable options entails conducting discussions with stakeholders and product team members and performing further analysis to define a list of possible solution recommendations to address the **business need**.
- The product team considers the information from the current and future state analysis when formulating these options. The product team also determines the solution approach for each option.
- The **solution approach** is a high-level definition about the considerations and steps necessary to deliver the solution and thereby transition the business from the current to the future state.
- Determining viable options and providing a recommendation entails the following activities:

1. **Identifying viable options**. Using the results of the current and future state analysis to determine which solution options are best for the business to consider.
2. **Conducting feasibility analysis**. Evaluating different factors to determine the feasibility of the options under consideration. Common elements analyzed for each of the options under consideration include the following: Constraints, assumptions, product risks, dependencies, culture, operational feasibility, technology feasibility, value, validation, and time feasibility.

Needs Assessment

Determine Viable Options and Provide Recommendations

3. **Defining preliminary product scope**. Determining the high-level scope defined in terms of the capabilities that each option will provide. At this stage, what is known about the product scope remains at a high level.
4. **Defining high-level transition requirements**. Identifying high-level transition considerations, such as data conversion or training requirements required to transition the organization to the specified solution. Attention should be given to draw out the significant differences in transition needs between each option.
5. **Recommending the most viable option**. A recommendation put forth to identify the option considered the most viable, assuming that more than one option remains viable after the feasibility analysis is completed. The option that is selected is identified, along with the rationale explaining why that selection was made over the other options.

- If **only one option** is judged to be feasible after the analysis is completed, that option, in most cases, will be recommended. When there are **no viable options** to address the business need, one option is to recommend that nothing be done. When faced with **two or more feasible options**, the remaining choices can be arranged in rank order, based on how well each one meets the business need. A technique such as weighted ranking is a good choice to perform this analysis.

Needs Assessment

Determine Viable Options and Provide Recommendations

Inputs

1. **Business goals and objectives** identify what the business is expecting the portfolio, program, or project to deliver. Each of the viable options under consideration will be assessed to determine how well it satisfies the stated business goals and objectives.
2. **Enterprise and business architectures** provide insights into the current state of the organization. When presenting viable options, each option can be analyzed and explained within the context of existing architectures. Doing this helps frame up the size and complexity of each option in terms that decision makers can more easily relate to and understand.
3. **The required capabilities and features** identify the list of net changes the organization is looking to obtain in order to achieve the desired future state. Each proposed option will address the capabilities and features differently.
4. **The situation statement** is an objective statement of a problem or opportunity that includes the statement itself, the situation's effect on the organization, and the resulting impact. The situation statement provides context for discussions when identifying a list of viable options.

Needs Assessment

Determine Viable Options and Provide Recommendations

Tools and Techniques

1. **Benchmarking** is a comparison of an organization's practices, processes, and measurements of results against established standards or against what is achieved by a "best in class" organization within its industry or across industries.
2. **Cost-benefit analysis** is a financial analysis tool used to compare the benefits provided by a portfolio component, program, or project against its costs. It is commonly used to identify the most viable option from a set of options.

- The results of the cost-benefit analysis are included in the **business case** to demonstrate why the solution option selected and proposed is considered the most viable choice.
- Organizations often have standards that dictate when and how to perform a cost-benefit analysis, including which financial valuation methods to employ. To perform a cost-benefit analysis, at least one valuation technique is applied to make the financial assessment.

Needs Assessment

Determine Viable Options and Provide Recommendations

3. **Elicitation techniques** are used to draw information from different sources. The information required to formulate a list of viable options is obtained by applying various elicitation techniques. For example, **prototyping** can be used to determine whether an option is viable by developing a prototype model to assess stakeholder expectations against the model. Prototypes help eliminate uncertainties about options, thereby reducing product-related risks
4. **Feature injection** is a framework and set of principles used to deliver successful outcomes by improving and expediting how a product team develops and analyzes product requirements. The framework is popular with teams that use adaptive development methods.

- Feature injection challenges this traditional approach by guiding the team to analyze only those features that are deemed to be of the highest value. The objective is to reduce the amount of time that teams spend analyzing low-value requirements. Using feature injection, product teams work backwards, focusing on value first and then on features to attain the value. Feature injection follows a three-step approach:

- **Step 1: Determine the business value**. The team discusses the expected or required value that the business seeks to achieve (the outcome). A technique like the purpose alignment model may help guide these discussions, but other value models can be used as well. When the team reaches a common understanding about expected value, it moves on to Step 2.

Needs Assessment

Determine Viable Options and Provide Recommendations

- **Step 2: Inject features**. Step 2 involves "injecting" or determining the features that will enable the business to achieve the value stated in Step 1. The product team determines the minimal set of features required to deliver the expected value. Each feature is presented in the form of a scenario. Modeling is used to promote these discussions.
- **Step 3: Spot examples**. Step 3 is about elaborating details. The business is asked to talk through examples that deviate from the scenario modeled in Step 2. Step 3 is used to uncover variations in processing or exceptions. The examples discussed here help the team develop a shared understanding of all the scenarios that the solution has to support; therefore, these scenarios expand product scope.

5. **Group decision-making techniques** are techniques that can be used in a group setting to bring participants to a final decision on an issue or topic under discussion. Group decision-making techniques can be used in conjunction with other techniques to decide on the recommended solution option

Needs Assessment

Determine Viable Options and Provide Recommendations

6. **Real options** is a decision-making thought process that can be used on projects that follow an **adaptive** delivery model. The objective of the technique is to approach decision making with the same level of thinking used to approach a stock option where a decision is made about whether to pursue an option (e.g., a decision and at what point in time).
   - Two fundamental principles are applied to decision making with real options: **The first** is to reduce the number of decisions that need to be made in the short term, and **the second** is to delay all decision making until as late as possible.
   - Delayed decision making provides a product team with more time to discover and improve its knowledge base; it reduces uncertainties and avoids making decisions based on assumptions. Delayed decision making allows a product team to keep its options open and does not commit the team to choices at a point in time when information is scarce
7. **Valuation techniques** quantify the return or value that an option will provide. Valuation techniques are utilized when conducting a cost-benefit analysis to establish criteria for objectively assessing a solution. A variety of techniques is available. Which techniques are used may depend on organizational standards.

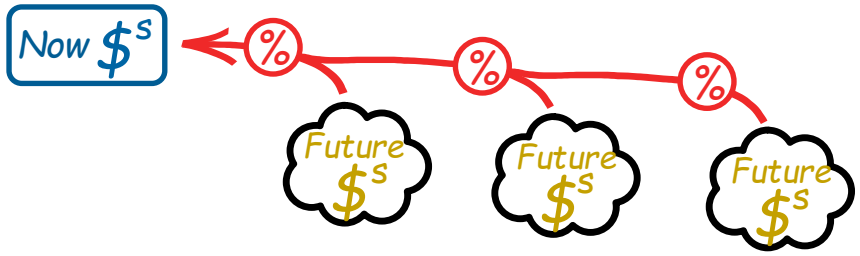
Needs Assessment

Determine Viable Options and Provide Recommendations

- Some of the more common valuation techniques include the following:

a. Internal rate of return (IRR). The value signifies the interest rate at which the net present value of all the cash flows will equal zero. IRR is a measure of return to cost; therefore, the higher the IRR, the higher the return a solution option is expected to deliver.

b. Net present value (NPV). The future value of expected benefits expressed in the value that those benefits have at the time of investment. NPV provides insight into whether an investment will provide value; the higher the NPV, the greater the amount of value an option is expected to provide.



c. Payback period (PBP). The time needed to recover an investment, usually in months or years. The longer the PBP, the greater the risk.

d. Return on investment (ROI). The percentage return on an initial investment. ROI provides an estimate of profitability; therefore, the higher the value, the better an investment is estimated to be.

- In some organizations, a specific factor may be required by policy, such as an NPV or return of a specific level.

Needs Assessment

Determine Viable Options and Provide Recommendations

8. **Weighted ranking** is a technique used to support objective decision making. It is typically performed with the use of a weighted ranking matrix. A weighted ranking matrix or table is used to weight, rate, and score each criterion against a set of options.
   - A weight is established for each criterion, commonly based on how important it is to the overall objective. In this approach, each option is rated as to how well it meets each individual criterion independent of other options, using a common scale. The weight and rating are multiplied together to obtain a criteria score, and all criteria scores are added together and compared to determine the preferred choice.

Items to Be Ranked	Criteria (Weight)				Total Votes	Final Rank[A]
	Criteria 1 (Weight 0.2)	Criteria 2 (Weight 0.4)	Criteria 3 (Weight 0.3)	Criteria 4 (Weight 0.1)		
Option #1	3 x 0.2 = 0.6	2 x 0.4 = 0.8	0	3 x 0.1 = 0.3	1.7	2
Option #2	0	0	2 x 0.3 = 0.6	2 x 0.1 = 0.2	0.8	3
Option #3	1 x 0.2 = 0.2	3 x 0.4 = 1.2	1 x 0.3 = 0.3	2 x 0.1 = 0.2	1.9	1

Needs Assessment

Determine Viable Options and Provide Recommendations

Outputs

1. **Feasibility study** results are the summarized outcomes obtained from the completion of the feasibility analysis. The results are assembled into a package that is conducive to supporting executive review and decision making.
   - Many organizations may require the use of a standardized template to package and communicate the results of the study. Although a recommended option will accompany the communication package, sufficient information pertaining to each of the viable options considered should be provided in case decision makers do not favor the preferred choice.
2. **The recommended solution option** is the solution choice determined to be the best course of action for addressing the business need. This recommendation is the best option, considering the results and factors of the completed analysis, including the financial analysis results.
   - The recommended solution option should include a summary of why the option was chosen, along with a high-level description of the process utilized to reach the decision. At the portfolio or program level, analysis results are reviewed and a decision and recommendation is reached, which consists of the best course of action for the portfolio or program. At the project level, the recommended solution is a high-level description of the product(s) to be developed.

Needs Assessment

Determine Viable Options and Provide Recommendations

Tailoring Considerations

Aspects to Be Tailored	Typical Adaptive Considerations	Typical Predictive Considerations
Name	Not a formally named process; performed as part of iteration 0 or later iterations.	Determine Viable Options and Provide Recommendation, business case analysis, or feasibility study
Approach	High-level vision of the solution and an early version of product scope might be created. Initial solution options are evaluated during iteration 0. Tasks can be created as "spikes" to investigate the feasibility of a solution during an iteration.	Viable options are identified, feasibility studies completed, and a recommended solution is selected prior to portfolio, program, or project initiation. Project and product scope are determined and agreed to up front, and adherence to both are managed throughout the course of the program or project.
Deliverables	Solution options are rarely documented and instead just implemented in the final product. Functional or technical spikes might be performed to research or investigate viable options for implementing user stories.	Feasibility study results and recommended solution option.

Collaboration Point

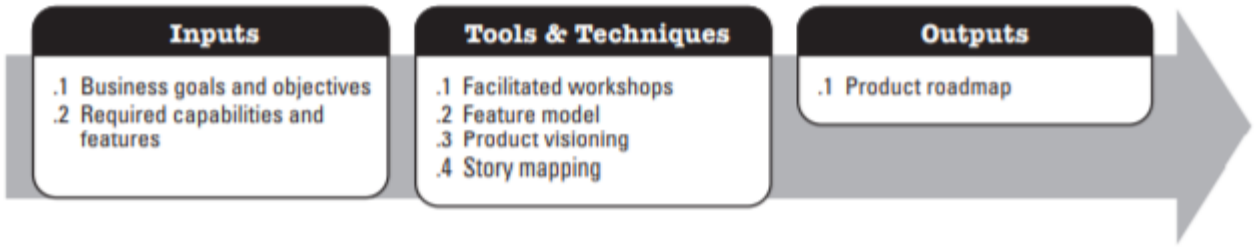
- Architects and designers are valuable contributors when determining the viability of a solution. Project managers may fulfill the role of SME, lending expertise to share insights related to costs, risks, scheduling, and resourcing for the options being discussed. Financial analysts provide assistance in performing the financial analysis using one or more of the valuation techniques to evaluate the options.

Needs Assessment

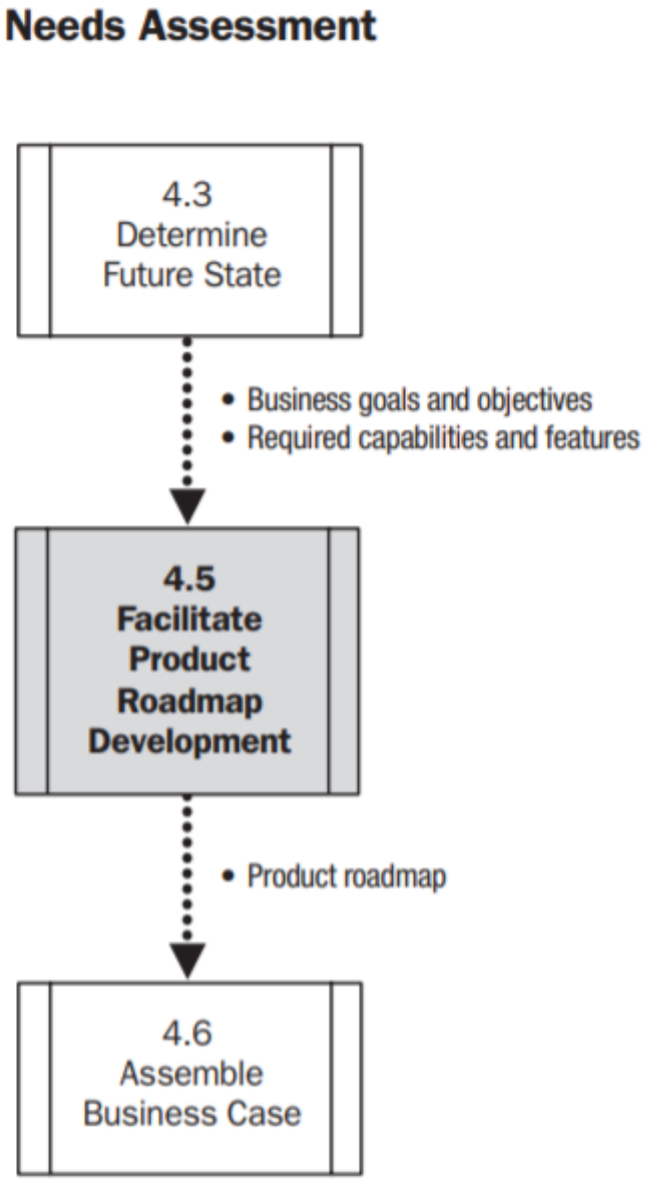
Facilitate Product Roadmap Development

- **Definition**: Facilitate Product Roadmap Development is the process of supporting the development of a product roadmap that outlines, at a high level, which aspects of a product are planned for delivery over the course of a portfolio, program, or one or more project iterations or releases, and the potential sequence for the delivery of these aspects.
- **Key benefit** of this process is that it creates shared expectations among stakeholders for the deliverables and the potential order in which they will be delivered.
- **Process Group**: Defining and Aligning process group
- The inputs, tools and techniques and outputs for this process are shown in figure below.

Knowledge Area	Process Group
Needs Assessment	Defining and Aligning
Stakeholders Engagement	Initiating
Elicitation	Planning
Analysis	Executing
Traceability and Monitoring	Monitoring and Controlling
Solution Evaluation	Releasing



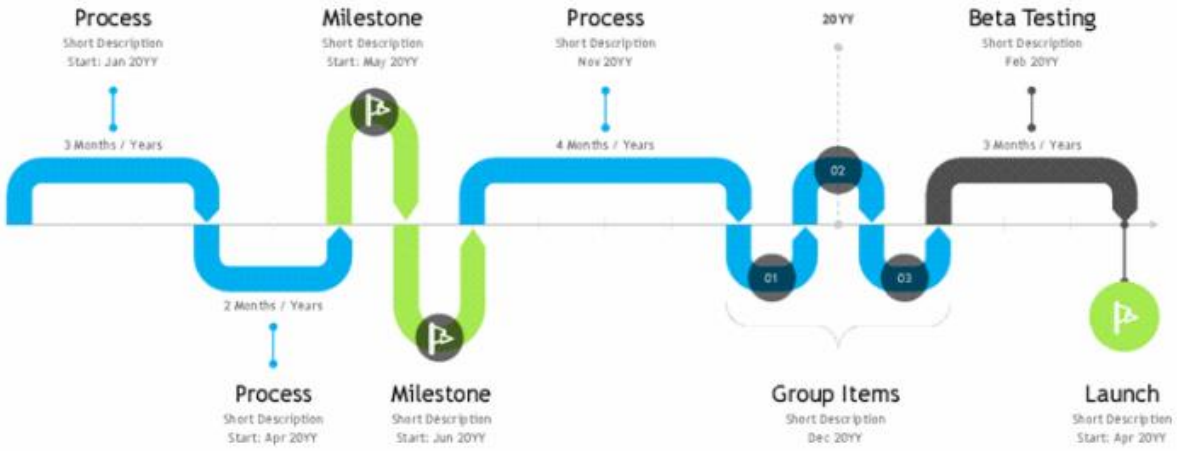
Data Flow Diagram



Needs Assessment

Facilitate Product Roadmap Development

- In business analysis, **product roadmaps** provide important information about a product, providing insight about the product vision and how the product will support organizational strategy, business goals, and objectives over time.
- **Organizational strategy** is achieved through portfolio components, programs, and projects, and the product roadmap helps tie organizational strategy and the product vision to an executable plan to achieve the strategic goals and objectives through delivery of the product.
- At the portfolio level, product portfolio roadmaps can be created to set vision, strategy, and timing for a group of products.
- The process of developing a product roadmap is a collaborative effort and brings together resources from the business and development team to form a shared understanding of what is being requested and why.



Needs Assessment

Facilitate Product Roadmap Development

- Several key elements are typically elicited and documented in the product roadmap, including the following:

- **Strategy information**. Information about how the product supports the overall organizational strategy (e.g., it provides better market positioning or improved customer satisfaction).
- **Portfolio**. Relationship of the product to the portfolio and how the product relates to other products in the portfolio.
- **Program**. Relationship of the product to the program and how the product relates to other products in the program.
- **Initiatives**. Overview information about different projects being considered or currently in development related to the product.
- **Product vision**. Explanation of the product, intended customers, and how needs are to be met. The product vision ties together what is being developed with why it is being developed.
- **Success criteria**. Metrics that can be used to determine solution success.

Needs Assessment

Facilitate Product Roadmap Development

- **Market forces**. Any external market forces that influence or shape the development of the product.
- **Product releases**. Identification of the expected product releases, and the themes or high-level features that each includes. When specifying product releases, some high-level assumptions regarding the project life cycle may need to be made.
- **Features**. Capabilities that the product will provide, paired to the product releases. Features are typically prioritized and explained from the viewpoint of how each supports the organizational strategy and business goals and objectives.
- **Timelines**. Expected window in which the feature sets will be delivered (generally a three- to six-month horizon for projects following a predictive life cycle and shorter for adaptive approaches).
    - Product roadmaps may be assembled in the form of a text-based document or they may take the form of a visual model. Regardless of whether the roadmap is formally or informally developed, it is crucial for product information to be assembled and shared with stakeholders and product team members to bring awareness to the expected growth and development of the product and how it will assist the organization in achieving its goals and objectives.

Needs Assessment

Facilitate Product Roadmap Development

Inputs

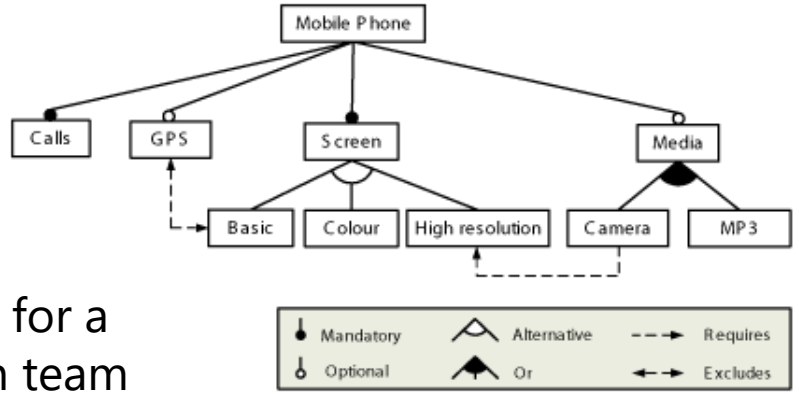
1. **Business goals and objectives** identify the deliverables for the portfolio, program, or project. Products are developed to solve the business need; therefore, they need to align to the stated business goals and objectives.
2. **The required capabilities and features** identify the list of net changes that the organization will need to obtain to achieve the desired future state. Required capabilities and features can be reflected in the product roadmap to communicate the expected timing of delivery.

Tools and Techniques

1. **Facilitated workshops** use a structured meeting led by a skilled, neutral facilitator and a carefully selected group of stakeholders to collaborate and work toward a stated objective. Facilitated workshops can be used to elicit the information required to develop the product roadmap.

Needs Assessment

Facilitate Product Roadmap Development



2. **A feature model** is a scope model that visually represents all the features of a solution arranged in a tree or hierarchical structure. An existing feature model can be referenced or a new one created to identify a list of features for the product roadmap.
3. **Product visioning** is a technique used to set the high-level direction for a product or a product release. It entails conducting conversations with team members to visualize and obtain agreement about what the team envisions for the product.

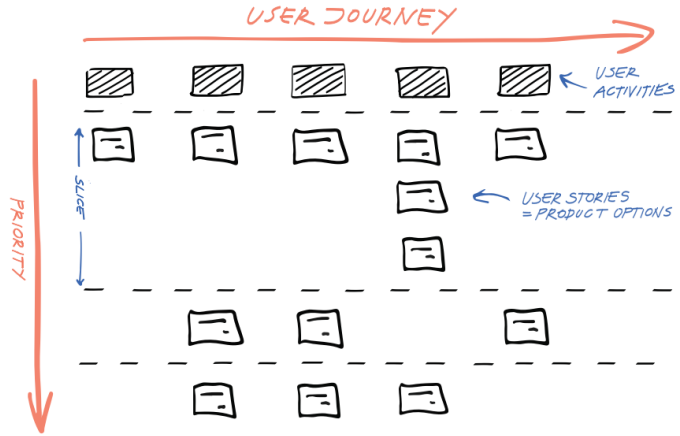
- Product visioning typically results in the development of a written or visual deliverable to ensure a shared understanding of the product and its direction—for example, a vision statement or a product box. A **vision statement** is a summarized, high-level description about the expectations for a product, such as the target market, users, major benefits, and what differentiates the product from others in the market.
- Vision statements provide enough guidance to the development team to ensure that its members collectively share a common understanding about the product without including a thoroughly vetted feature list

Needs Assessment

Facilitate Product Roadmap Development

4. **Story mapping** is a technique used to sequence user stories, based upon their business value and the order in which their users typically perform them, so that teams can arrive at a shared understanding of what will be built.

- Story maps help communicate the features and product components that the product team will be responsible for delivering. Stories written during the development of the product roadmap typically are written at a high level and may exist as epics. Epics are later decomposed into other epics or individual stories. The output from this technique provides insightful information used in the development of the product roadmap



Outputs

1. **A product roadmap** provides a high-level view of product features, along with the sequence in which the features will be built and delivered. It is used to communicate how a product will develop and mature over time.

- Product roadmaps include information about the product vision and the evolution of the product throughout its life cycle. Product roadmaps are used as a planning tool to understand a product and how it will continue to support organizational strategy as it is further refined and enhanced.

Needs Assessment

Facilitate Product Roadmap Development

Tailoring Considerations

Aspects to Be Tailored	Typical Adaptive Considerations	Typical Predictive Considerations
Name	**Facilitate Product Roadmap**	
Approach	Visual representation of a roadmap is broken out by themes and features and may cover a short-term or long-term view. It is revised as new features are identified and priorities are adjusted. The value of the product changes regularly as adjustments are made to the feature set. Roadmaps can be created for single products or for an entire portfolio.	Roadmaps might show high-level milestones, features, or product components. The product roadmap covers a longer time frame (e.g., 12 months) and change is infrequent. When changes are proposed, they need to be assessed for impact to previously stated and expected value. Roadmaps can be created for single products or for an entire portfolio.
Deliverables	Product roadmap	

Collaboration Point

- Portfolio and program managers can serve as valuable sources of information needed for the development of the roadmap. They are key contributors in defining how a new product aligns to organizational strategy and relates to other products in the portfolio or program, and they can work closely with the business analyst to transfer this knowledge.

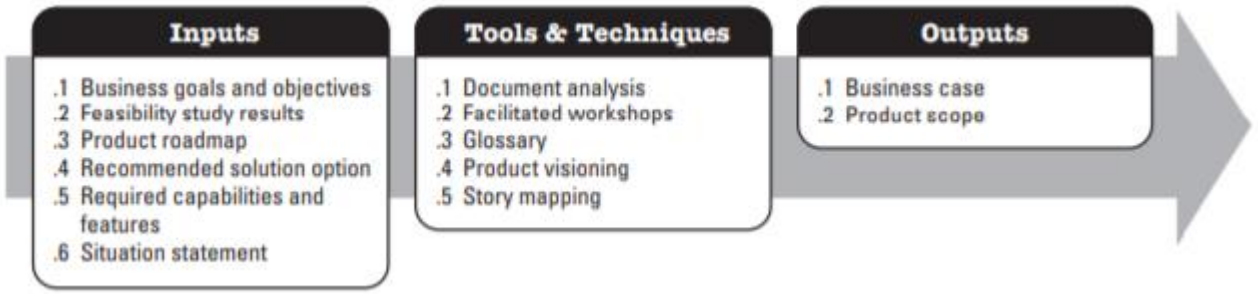
Needs Assessment

Assemble Business Case

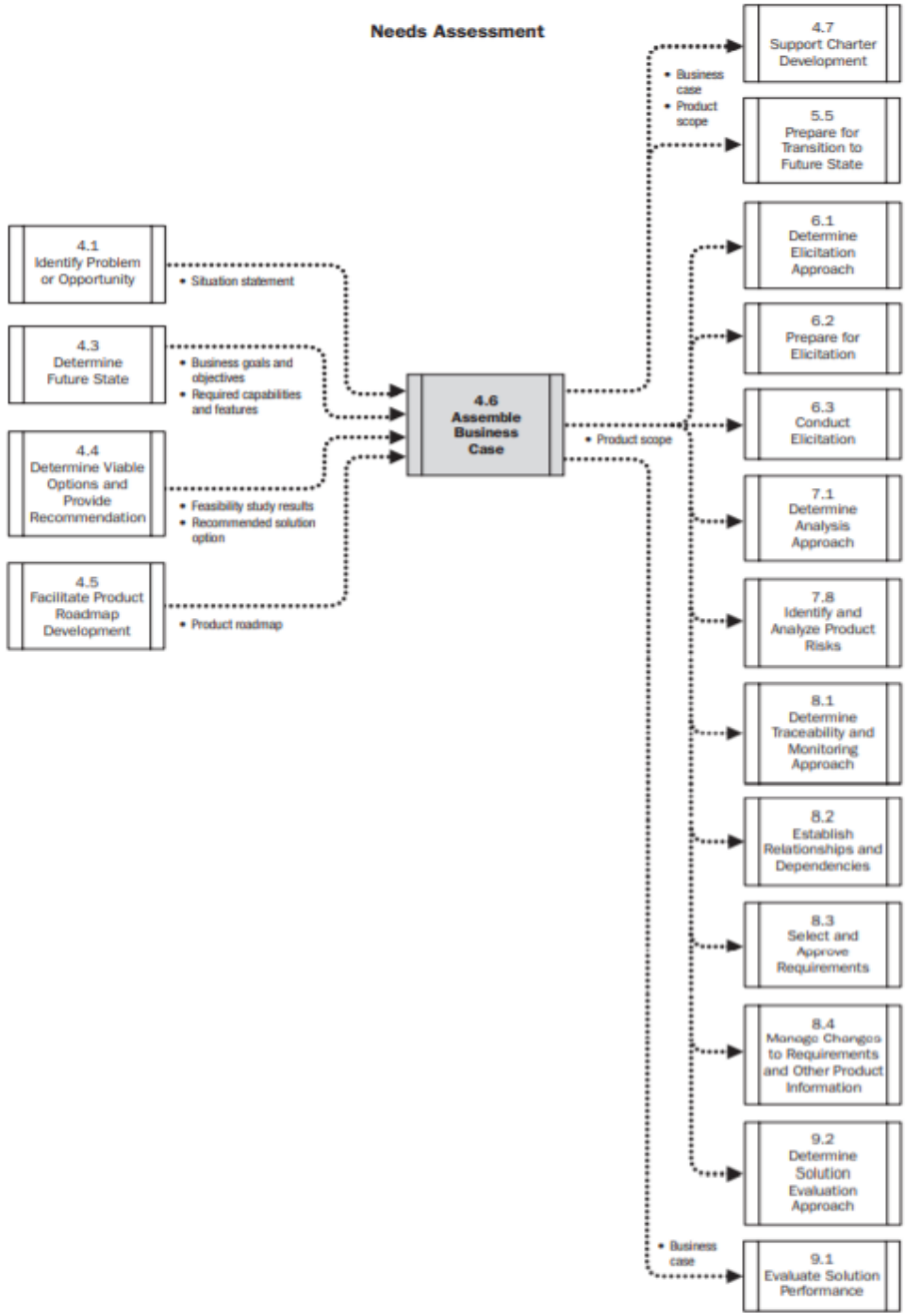
- **Definition**: Assemble Business Case is the process of synthesizing well-researched and analyzed information to support the selection of the best portfolio components, programs, or projects to address business goals and objectives.
- **Key benefit** of this process is that it helps organizations align programs and projects in a consistent manner, enabling the decision makers to determine whether a program and/or project is worth the required investment.

Knowledge Area	Process Group
Needs Assessment	Defining and Aligning
Stakeholders Engagement	Initiating
Elicitation	Planning
Analysis	Executing
Traceability and Monitoring	Monitoring and Controlling
Solution Evaluation	Releasing

- **Process Group**: Defining and Aligning process group
- The inputs, tools and techniques and outputs for this process are shown in figure below.



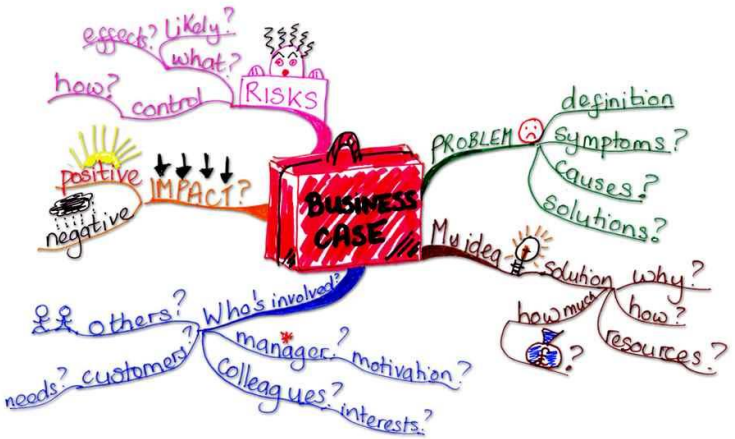
Data Flow Diagram



Needs Assessment

Assemble Business Case

- Assemble Business Case consists of the work performed to assemble and package the information required by key decision makers to evaluate portfolio components, programs, or projects and determine whether a portfolio component, program, or project is worth pursuing.
- A business case provides a documented economic feasibility study, establishing the validity of the benefits to be delivered by a portfolio, program, or project, it presents information to establish whether the organization should address a problem or opportunity.
- The business case explores the nature of the problem or opportunity, presents its root causes or contributors to success, and looks at many facets that contribute to a complete recommendation. **Much of the analysis completed during Needs Assessment is used in the development of the business case**.



- The business case provides the key information required to establish the objectives and serves as a major input to the charter. Identifying the value that is expected from pursuing the proposed change and making sure the value proposition is being clearly communicated is a critical component of the business case.

Needs Assessment

Assemble Business Case

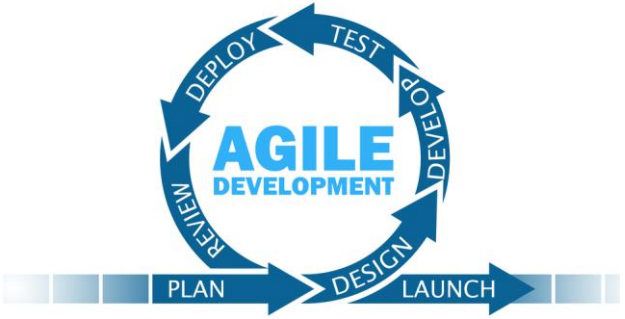
- When a business case is produced, the organization may require the use of a standardized, preapproved business case template. Often, an organization has its own requirements for what to include in a business case and employs a set of templates or business case software to simplify and standardize the process. A common set of components in any business case should minimally include the following:

1. **Problem/opportunity**. Specify what is prompting the need for action. Use a situation statement or equivalent to document the business problem or opportunity to be addressed through a portfolio component, program, or project.
2. **Analysis of the situation**. Describe how a potential solution will support and contribute to the business goals and objectives. Include root cause(s) of the problem or the main contributors to an opportunity.
3. **Recommendation**. Present the results of the feasibility analysis for each potential option. Specify any constraints, assumptions, risks, and dependencies for each option. Rank in order the alternatives and list the recommended one; include why it is recommended and why the others are not. Summarize the cost benefit analysis for the recommended option.
4. **Evaluation**. Include a plan for measuring benefits realization. This plan typically includes metrics for evaluating how the solution contributes to goals and objectives. It may necessitate additional work to capture and report those metrics.

Needs Assessment

Assemble Business Case

- When a business case is created, it becomes a valued input to the initiation of a portfolio component, program, or project, providing the team with a concise and comprehensive view of the business need and the approved solution for that need
- The development of a business case may be driven by many factors, including: Market demand, organization need, customer request, strategic opportunities, social needs, and technological advancement.
- Although both adaptive and predictive project life cycles recognize the business case as a key input for initiating project-related work, adaptive methods will assemble "**just enough**" of the content to get started. With adaptive approaches, features will continue to be added as the solution is further refined; therefore, the business case will not contain the full list of benefits, as it would in a predictive approach



- Adaptive methods will estimate cost and schedule from a very high level and then progressively expand upon this information through the iterative development cycle, while predictive methods will complete all this analysis up front.

Needs Assessment

Assemble Business Case

Inputs

1. **Business goals and objectives** specify stated targets that the business is seeking to achieve. A common link between business goals and objectives and portfolio components, programs, or projects is the business case. Business goals and objectives are included in the business case to provide context regarding what the business expects to achieve by pursuing the proposed change.
2. **Feasibility study results** are the summarized results obtained from the completion of the feasibility analysis. The results are included in the business case to provide supporting information to decision makers who will determine whether the portfolio component, program, or project should be initiated.
3. **A product roadmap** provides a high-level view of product features, along with the sequence in which the features will be built and delivered. The key information from the product roadmap is included within the business case to provide decision makers with insights into how the product is envisioned to evolve over time
4. **The recommended solution option** is the solution choice determined to be the best course of action for addressing the business need. The recommended solution option is showcased within the business case, along with the supporting information that provides the rationalization for its selection.

Needs Assessment

Assemble Business Case

5. **The required capabilities and features** identify the list of net changes the organization will need to obtain in order to achieve the desired future state. The capabilities and features required for the recommended solution are listed in the business case to provide decision makers with insight into which capabilities and features are required when the recommended solution option being recommended is pursued.
6. **The situation statement** is an objective statement of a problem or opportunity that includes the statement itself, the situation's effect on the organization, and the resulting impact. The situation statement is included in the business case to clearly communicate the problem or opportunity that the proposed solution is addressing.

Tools and Techniques

1. **Document analysis** is an elicitation technique used to analyze existing documentation and identify relevant product information. When assembling a business case, documentation from several different sources is reviewed to obtain the relevant information needed to build the business case.

Needs Assessment

Assemble Business Case

2. **Facilitated workshops** use a structured meeting led by a skilled, neutral facilitator and a carefully selected group of stakeholders to collaborate and work toward a stated objective. Because facilitated workshops support interactivity, collaboration, and improved communication among participants, the technique is a good choice when a team needs to elicit information and amass support to assemble the business case.
3. **The glossary** provides a list of definitions for terms and acronyms about a product. When assembling a business case, a glossary provides a common vocabulary about terms that the stakeholders and product team may be unfamiliar with and focuses specifically on the terms requiring clarity to understand the information in the business case.
4. **Product visioning** is a technique that a product team can use to obtain a shared understanding about the product and set a high-level direction for its development. Product visioning involves discussions to help the team evolve its ideas about the product.
   - A vision statement or similar output that clearly defines the goal and rationale for building the solution is included in the business case to provide decision makers with the same understanding of the product that the team shares

Needs Assessment

Assemble Business Case

5. **Story mapping** is a technique used to sequence user stories, based upon their business value and the order in which their users typically perform them, so that teams can arrive at a shared understanding of what will be built. Story maps help communicate the features and product components that the product team will be responsible for delivering.

- Product components can be assigned to product releases to communicate when features will be delivered. When included in the business case, story maps provide insightful information to those responsible for determining whether to approve the portfolio component, program, or project.

Needs Assessment

Assemble Business Case

Outputs

1. **A business case** provides a documented economic feasibility study, establishing the validity of the benefits, in terms of value, to be delivered by a portfolio component, program, or project. The business case is the common link between the business goals and objectives and the portfolio components, programs, or projects established to execute the business strategy.

- An approved business case is used as input when creating a charter to initiate a portfolio component, program, or project. Business cases are assembled as one of the final process steps in Needs Assessment.

2. **Product scope** is defined as the features and functions that characterize a solution. Decision makers may accept the recommended option put forth in the business case, choose an alternative approach, or defer or reject the business case. Throughout an initiative, product scope may be revised in response to changing business needs, risks, or one or more constraints imposed by budget or schedule.

Needs Assessment

Assemble Business Case

Tailoring Considerations

Aspects to Be Tailored	Typical Adaptive Considerations	Typical Predictive Considerations
Name	Not a formally named process; performed as part of project chartering.	Assemble Business Case
Approach	An initial set of features is developed, with more added over time. Estimates are just detailed enough to continue. Includes enough information in the business case to move forward with a decision. The feasibility of the solution is validated early by delivering higher-risk features in early iterations. Return on investment is attained more quickly than with predictive methods, as features are delivered iteratively. The budget might be focused on how much the sponsor has to spend instead of on an assessment of costs. Scope is determined by addressing highest-prioritized features first. As features are added over time, the assessment of benefits/value changes.	Create a thorough list of product features, rigorous estimate, fully defined list of benefits, list of risks, assumptions, constraints, and dependencies. Requires a formal sign-off against a fully elaborated business case. Considered a higher-risk approach over adaptive methods because feasibility is not validated until late in the initiative. Return on investment is attained at completion of the entire initiative. The business case includes cost estimates. The benefits are estimated and not realized until implementation. Funding is typically sought to cover the entire product development cycle.
Deliverables	Lightweight business case that is revisited and revised.	Formalized detailed business case.

Collaboration Point

- At the point of business case development, a portfolio component, program, or project is not yet initiated, but the resource who will serve as sponsor should the business case get approved is typically known. The proposed sponsor is the business champion for this change. The **sponsor** writes the business case with the support of the business analyst or provides information to support its development.

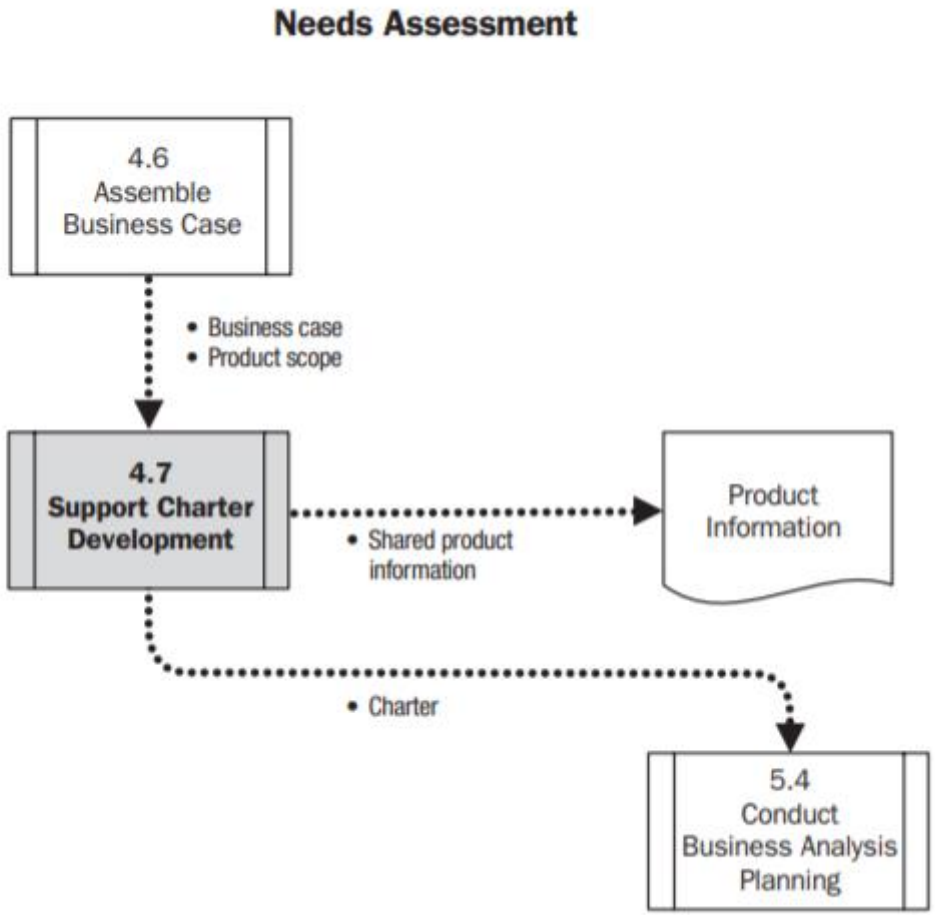
Needs Assessment

Support Charter Development

- **Definition**: Support Charter Development is the process of collaborating on charter development with the sponsoring entity and stakeholder resources using the business analysis knowledge, experience, and product information acquired during needs assessment and business case development efforts
- **Key benefit** of this process is that it enables a smooth transition from the business case to charter development and provides stakeholders with a foundational understanding of the portfolio, program, or project objectives, including product scope and requirements.
- **Process Group**: Initiating process group
- The inputs, tools and techniques and outputs for this process are shown in figure below.

Knowledge Area	Process Group
Needs Assessment	Defining and Aligning
Stakeholders Engagement	Initiating
Elicitation	Planning
Analysis	Executing
Traceability and Monitoring	Monitoring and Controlling
Solution Evaluation	Releasing

Data Flow Diagram



Needs Assessment

Support Charter Development

- A **portfolio charter** is a document issued by a sponsor that authorizes and specifies the portfolio structure and links the portfolio to the organization's strategic objectives.
- A **program charter** authorizes the program management team to use organizational resources to execute the program and links the program to the organization's strategic objectives.
- A **project charter** is issued by the project initiator or sponsor to formally authorize the existence of a project and provides the project manager with the authority to apply organizational resources to project activities.
- A charter establishes the scope boundaries and creates a documented record of the initiation of the portfolio component, program, or project.
- The charter is used to establish a partnership between the business and the product development team by creating **internal agreements** within the organization to ensure the proper delivery of the solution. The charter provides the context needed to plan the scope management processes and serves as a communication mechanism by which senior managers can formally accept and commit to the initiative.

Needs Assessment

Support Charter Development

- Information in the charter is presented at a **high level**, but is more detailed than the information assembled when recommending the proposed solution.
- Information in the charter focuses on a tactical discussion about how the **portfolio component**, **program**, or **project** will be performed, including information about the **elements required** to deliver the chosen solution to the business. Information about initial **financial resources** and the internal and external **stakeholders** who will interact and influence the overall outcome of the initiative are identified.
- Information that is commonly part of a charter includes: Description and purpose, business goals/objectives, high level product/program/portfolio/project scope, risks, risks, summary budget, success criteria and summary of milestones.
- Chartering validates alignment of the portfolio, program, or project to the strategy and ongoing work of the organization regardless of how formal an output is required. A charter requires enough information to secure funding for a portfolio, program, or project and to authorize a team to begin work.

Needs Assessment

Support Charter Development

Inputs

1. **The business case** describes pertinent information to determine whether the initiative is worth the required investment. The needs assessment and business case build the foundation for determining the objectives of the portfolio component, program, or project, and serve as inputs to a charter.
   - Typically, the business need and the cost-benefit analysis are contained in the business case to justify and establish boundaries for the portfolio component, program, or project, which is necessary information when creating a charter.
2. **Product scope** is defined as the features and functions that characterize a solution. During charter development, initial product scope is established by the inclusion of high-level product requirements. The charter may also include information about out-of-scope features to clearly identify any features that have been deferred or cut from the scope.

Tools and Techniques

1. **Document analysis** is an elicitation technique used to analyze existing documentation to identify relevant product information. It can be used to identify information used in the development of the charter

Needs Assessment

Support Charter Development

2. **Facilitated workshops** use a structured meeting led by a skilled, neutral facilitator and a carefully selected group of stakeholders to collaborate and work toward a stated objective, such as the development of product requirements.
   - Facilitated workshops are used to elicit information needed in the development of the charter. Because facilitated workshops support interactivity, collaboration, and improved communication among participants, the technique is a practical elicitation technique to use when developing a charter and obtaining stakeholder consensus on the information included in it
3. **The glossary** provides a list of definitions for terms and acronyms about a product. When developing a charter, a glossary can provide a common vocabulary about terms with which the stakeholders and product team are unfamiliar or that are commonly misunderstood, focusing specifically on the terms requiring clarity to understand the information in the charter.
   - If the product team is sharing a glossary across the portfolio, program, or project, a link to the shared glossary can be provided from the charter or team workspace

Needs Assessment

Support Charter Development

4. **An interview** is a formal or informal approach to elicit information from stakeholders. It is a viable technique for eliciting information necessary in the development of the charter. Interviews are scheduled with various stakeholders who possess key information. The information obtained from interviews can be used to initiate the charter or fill in information gaps when other elicitation techniques were used previously.

Outputs

1. **A charter** establishes the scope boundaries and creates a documented record of the initiation of the portfolio component, program, or project. It is used to establish a partnership between the business and the product development team by establishing internal agreements within the organization to ensure proper delivery of the portfolio, program, or project.
2. **Shared product information** consists of the compilation of all the information discussed and shared across the product team during collaboration. When the charter is collaboratively developed, the product team obtains a common understanding about the solution that the portfolio component, program, or project is commissioned to deliver

Needs Assessment

Support Charter Development

Tailoring Considerations

Aspects to Be Tailored	Typical Adaptive Considerations	Typical Predictive Considerations
Name	Charter Development	Support Charter Development
Approach	Created as an entire team, before the initiative starts with lightweight information about the initiative, why it is pursued, high-level scope, capabilities, and success criteria. Decisions made during charter development discussions will be revisited across iterations to ensure that ongoing work remains in alignment with the vision set forth at the start of the initiative.	Created before the initiative starts with detailed information about the portfolio components, program, or project; why it is pursued; high-level scope; capabilities; and success criteria. Once approved, the guidelines set forth in the charter are followed. The charter information will not change unless the changes being proposed are approved by those with the authority to do so.
Deliverables	Charter developed to sufficient level to obtain a shared understanding about initiative and solution. May include models that define scope—for example, context diagram.	Formal charter, multipage document. May include models that define scope—for example, context diagram. Assembled in a document created from a standardized organizational template.

Collaboration Point

- Portfolio, program, and/or project managers work alongside the business analyst to translate the business case into a portfolio, program, or project charter.

Needs Assessment Quiz

Question 1

While identifying the problem/opportunity on your project, which of the following tools and techniques can be used to obtain early feedback on requirements by providing a model of the expected solution?

a. Market analysis
b. Prototyping
c. Benchmarking
d. Document analysis

Answer

Prototyping is a method of obtaining early feedback on requirements by providing a model of the expected solution before building it. When identifying problems or opportunities, this technique is useful to learn and discover what is valuable from the perspective of the customer.

Needs Assessment Quiz

Question 2

A business need is the impetus for a change in an organization. It is an output of which business analysis process?

a. Identify problem/opportunity
b. Assess current state
c. Determine future state
d. Facilitate product roadmap development

Answer

A **business need** is the impetus for a change in an organization, based on an existing problem or opportunity. It provides the rationale for why organizational changes are being proposed and why a new portfolio component, program, or project is being considered. Once clearly defined, it is used to provide context when discussing the future state, solution options, and business requirements.

Needs Assessment Quiz

Question 3

Which of the following documents will provide you as the business analyst with a documented economic feasibility study, establishing the validity of the benefits, in terms of value?

a. Business case
b. Business need
c. Charter
d. Product roadmap

Answer

The Business Case provides a documented economic feasibility study, establishing the validity of the benefits, in terms of value, to be delivered by a portfolio component, program, or project

Needs Assessment Quiz

Question 4

While determining the most viable option in your business analysis initiative, which of the following techniques should be used to support objective decision making?

a. Weighted Ranking
b. Market Analysis
c. Benchmarking
d. Brainstorming

Answer

Weighted ranking is a technique used to support objective decision making. It is typically performed with the use of a weighted ranking matrix. A weighted ranking matrix or table is used to weight, rate, and score each criterion against a set of options.

Needs Assessment Quiz

Question 5

Which of the following documents should you review to provide you with a high-level view of product features, along with the sequence in which the features will be built and delivered?

a. Glossary
b. Product scope
c. Product Roadmap
d. Business Case

Answer

A product roadmap provides a high-level view of product features, along with the sequence in which the features will be built and delivered. It is used to communicate how a product will develop and mature over time.

Needs Assessment Quiz

Question 6

Which of the following documents is the key output of the determine future state process?

a. Business goals and objectives
b. Product scope
c. Product Roadmap
d. Business Case

Answer

Business goals and objectives identify what the business expects the portfolio, program, or project to deliver. Business goals and objectives align to the organizational goals and objectives, but are at a lower level because they specify stated targets that the business is seeking to achieve.

Needs Assessment Quiz

Question 7

Which of the following best defines the feature injection technique?

a. A comparison of an organization's practices, processes, and measurements of results against established standards
b. Framework and set of principles used to deliver successful outcomes
c. A decision-making thought process that can be used on projects that follow an adaptive delivery model
d. Technique that a product team can use to obtain a shared understanding about the product

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Answer

Feature injection is a framework and set of principles used to deliver successful outcomes by improving and expediting how a product team develops and analyzes product requirements. The framework is popular with teams that use adaptive development methods.

Needs Assessment Quiz

Question 8

A histogram that can be used to communicate the results of root cause analysis is known as which of the following?

a. Kano
b. General Histogram
c. Pareto Diagram
d. Capability Table

Answer

A Pareto diagram is a histogram that can be used to communicate the results of root cause analysis. Pareto diagrams are a special form of vertical bar chart used to emphasize the most significant factor among a set of data. The vertical axis can depict any category of information that is important to the product team, such as cost or frequency, or consequences such as time or money. The horizontal axis can display the categories of data being measured— for example, types of problems or cause categories.

Needs Assessment Quiz

Question 9

Which of the following tools and techniques can be used for obtaining and analyzing information about an organization's external environment?

a. Glossary
b. Enterprise environmental factors
c. Competitive analysis
d. Capability table

Answer

Competitive analysis is a technique for obtaining and analyzing information about an organization's external environment. Results of competitive analysis may identify competitor strengths that impose threats or may uncover an area of weakness an organization has in comparison to its competition.

Needs Assessment Quiz

Question 10

While assessing the current state, which of the following tools and techniques will provide a set of descriptions about the key skills, knowledge, behaviors, abilities, systems, and overall competencies of value to an organization?

a. Glossary
b. Gap analysis
c. Capability framework
d. Capability table

Answer

A capability framework provides a set of descriptions about the key skills, knowledge, behaviors, abilities, systems, and overall competencies of value to an organization. The capabilities analyzed can be for people or products.


THANK YOU