

# Page Test

Friday, October 16, 2020 8:47 AM

Wiki test

BGK was here

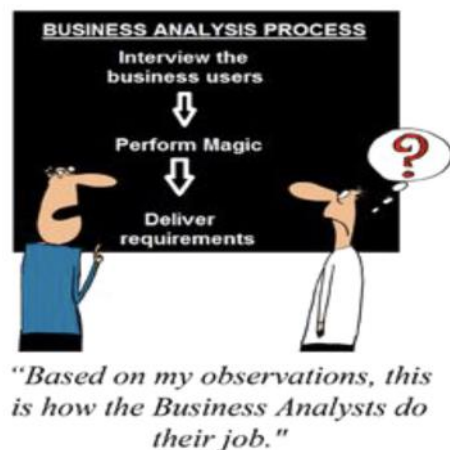
DB was here too!

# Business Analysis Techniques

Friday, December 4, 2020 2:24 PM

Author- Bhumika Garg Kansal, Devin Bunch

As the needs for Business Analysis and Quality Assurance continue to grow at Lithia, Gamification couldn't have come at a better time! I think it is the best time to expand and share our knowledge with our peers! And hence, with that in mind, I created this Wiki, where I want to dive deeper into the various Business Analysis techniques, that we can employ to do the MAGIC of delivering the well documented requirements!



There are several techniques that Business Analyst (BA) can employ to do their job. Depending on the purpose and situation at hand, a BA may utilize one technique or the other. This Wiki will guide you through the different techniques and tips on when, how and why to use each:

**Note: This is NOT a comprehensive list of all BA techniques that have been developed thus far.**

1. Affinity Diagram
2. Benchmarking
3. Context Diagrams
4. Data Dictionary
5. Decision Tables
6. Decision Trees
7. Decomposition- Functional and Otherwise
8. Document Analysis
9. Five Why's
10. Glossary
11. In-Out List
12. Interviews
13. Observation
14. Sampling
15. Stakeholder Communications Matrix
16. Stakeholder Role Matrix
17. Use Case Diagrams
18. V-MOST Analysis

## Version Control

V1.0- Initial Template created with 5 techniques, as follows: Affinity diagram, Benchmarking, DataDictionary, Use Case Diagrams and Context Diagrams.

V1.1- Copying initial template and adding pages for: Decision Tables, Five Why's, Decision Trees, Decomposition-Functional and Otherwise, In-Out List, Observation, Document Analysis, Glossary, Sampling, Stakeholder Communications Matrix, Stakeholder Role Matrix, V-MOST Analysis and Interviews. The order of pages follow the Index above. Version authored by Devin Bunch.

# Affinity Diagram

Friday, December 4, 2020 2:26 PM

## **Definition**

Affinity Diagrams are used to organize unstructured ideas and data into related groups for further analysis or action.

It is also frequently known as the KJ Method after its inventor, Jiro Kawakita.

## **Usage**

Affinity diagrams are commonly used in Project management and Business Analysis to sort a large amount of information into groups. They can also be used to build consensus among a group for:

1. Common understanding of an issue.
2. Common understanding of options and possible responses to a situation.
3. Improved understanding of data in an operational context (can be beneficial in a cross-functional group setting.)

Affinity diagrams are one of the most commonly used tools during Brainstorming sessions to capture and organize team output. As a business analyst, one may find them a useful way to analyze:

1. Interview notes.
2. Issue logs (Bugs/defects).
3. User feedback.
4. Any other similar type of large data, where grouping them into similar data sets can help in further analysis.

Upon completion, one can utilize these affinity diagrams to

1. Create Cause and Effect diagrams.
2. Guide stakeholder analysis efforts.
3. Feed into the creation of a business analysis plan.

## **How to Create an Affinity Diagram**

One can include the brainstorming session(s) as part of the diagram creation. However, in order to clearly separate the two, outlined here is the process of creating the diagram after the unstructured data sets have been captured.

### ☐ **Step 1:** Sorting and resorting

The first step is to sort the data set into groups based on common themes or other relationships. This step should continue till every item of the dataset has been placed into some 'group', even if the group contains just one item.

Note- if this is being done in a group setting, a recommendation is that every team member sorts the items into groups that make sense to them. Once done, the team members can collaborate and move or rename groups based on mutual understanding.

### ☐ **Step 2:** Name the groups

Once the items have been grouped, next step is to give a name to the group that describes the common theme of the items in the group. For example, if reviewing the feedback from a testing cycle, the group names might be Interface changes, Performance problems,

Functional errors, Missing Functionality, and similar groupings.

☐ **Step 3:** Analyze, Discuss and Prioritize

In the last step of the process, analyze the current groups created, group and re-organize them into 'mega groups' or break them down further into 'sub-groups'. Once satisfied with the groupings, they can be arranged based on their priorities. If priorities have not been defined by the end-users, the affinity diagram can be used to drive this conversation, as it shows the 'bigger picture'.

**End Result**

At the end of this exercise, one should have an organized and prioritized data set that can be utilized to drive the project planning, business analysis planning, any further analysis of the scope etc.

One thing to note here, is Affinity diagram is usually part of first stage of an analysis effort to drive the planning.

**References:**

1. Wikipedia: Affinity Diagram
2. Article: Using Affinity Diagrams to Make Sense from Brainstorming. On the Leanyourcompany.com web site.
3. Article: The K-J Technique: A Group Process for Establishing Priorities. By Jared M. Spool.

# Benchmarking

Friday, December 4, 2020 2:27 PM

## Definition

Benchmarking is the process of comparing an entity's strengths, weaknesses, business processes and performance metrics to its peers, competitors, industry leaders or best practices from other industries. Or, the systematic process of searching for best practices, innovative ideas and highly effective operating procedures that lead to superior performance.

## Usage

During the Benchmarking process, the team (usually the management) identifies the best firms or organizations in their industry, or in another industry where similar processes exist; and compare the results and processes of those studied (the 'targets') to the firm's own results and processes.

The goal here is to determine how these targets achieve the high performance levels and utilize this information to drive and implement projects to improve operations of the enterprise. Benchmarking also helps in identifying where a firm has a competitive advantage vs areas they can improve upon in comparison to their market peers.

Benchmarking can also help firms overcome the '**paradigm blindness**', as it can provide the organizations with new methods and approaches to improve their performance. Paradigm blindness can be defined as the thinking of "The way we do it is the best because this is the way we've always done it".

## How to conduct Benchmarking

### ☐ **Step 1:** Identify the type of Benchmark study

Based on the case at hand, one can choose one of the following types of Benchmark study:

- i. **Process Benchmarking** - Focuses on the observation and investigation of business processes with a goal of identifying and observing the best practices from one or more benchmark firms. Usually involves the creation of process maps to facilitate comparison and analysis. Often applied to back-office processes where outsourcing may be a consideration.
- ii. **Financial Benchmarking** - Involves performing a financial analysis and comparing the results in an effort to assess your overall competitiveness and productivity. May also be done from an investor perspective by extending the benchmarking universe to also compare peer companies that can be considered alternative investment opportunities.
- iii. **Performance Benchmarking** - Is usually focused on assessing a firm's competitive position by comparing products and services with those of target firms (usually their direct competitors). This may be undertaken through a trade association or 3rd-party in order to protect confidentiality of the process.
- iv. **Product Benchmarking** - This is the process of assessing a firm's current or designed products to current ones from competitors. This process can sometimes involve reverse engineering which is taking apart competitors' products to find strengths and weaknesses.
- v. **Strategic Benchmarking** - Is usually undertaken as part of an effort to improve overall business performance by examining the long-term strategies and general approaches that have made other firms successful. This type of benchmarking is usually not industry-specific, meaning it is best to look at other industries.

- vi. **Functional Benchmarking** - This is a benchmarking assessment of a single function or process in order to improve the firm's capabilities in that particular area. Complex functions such as Human Resources, Finance and Accounting and Information and Communication Technology are unlikely to be directly comparable in cost and efficiency terms and may need to be disaggregated into processes to make valid comparison. These studies frequently involve firms that are not direct competitors, but who are stand-outs in the particular function being analyzed.
- vii. **Internal Benchmarking** - This involves benchmarking businesses or operations from within the same organization (e.g. business units in different countries). The main advantages of internal benchmarking are that access to sensitive data and information is easier; standardized data is often readily available; and, usually less time and resources are needed.
- viii. **Energy Benchmarking** - This is the process of collecting, analyzing and relating energy performance data of comparable activities with the purpose of evaluating and comparing performance between or within entities.[6] Entities can include processes, buildings or companies. Benchmarking may be internal between entities within a single organization, or - subject to confidentiality restrictions - external between competing entities.

☐ **Step 2:** Outline the process

This again, is dependent on the case at hand, but at a high level, following can be included as part of the process:  
(Chang and Kelly Process)

- i. Identify what to benchmark
- ii. Determine what to measure
- iii. Identify who to benchmark
- iv. Collect the data
- v. Analyze the data
- vi. Set goals and develop an action plan
- vii. Monitor the process

☐ **Step 3:** Implement the Process identified

Once you have the type of benchmarking and the process defined, the next step is to implement the process, and document the findings, and make proposals for improvement projects where needed.

As the documentation progresses, one may find the need to recalibrate the metrics and plan further studies.

**Sample Benchmarking**

While studying about benchmarking, I came across a BPA benchmarking which I found to be a really good one to show how a final report can look like:

[https://www.bpa.gov/EE/Technology/demand-response/Documents/2018\\_Distributed\\_Energy\\_Resources\\_Benchmarking\\_Report.pdf](https://www.bpa.gov/EE/Technology/demand-response/Documents/2018_Distributed_Energy_Resources_Benchmarking_Report.pdf)

One thing to note, Benchmarking is an organization level effort, and can be very time consuming. Some organization may not have the correct skillset required to conduct this analysis. And hence, more often you may find third party vendors doing this effort.

**References:**

1. BABOK v2.0
2. Wikipedia
3. Business Strategy - Benchmarking, by Jim Riley for tutor2u.net
4. Basic Measuring and Benchmarking Techniques, on the Trinity Web Works Marketing Strategy Archives blog.
5. Benchmarking, in the Encyclopedia of Business, 2nd Ed.
6. Interview Questions - Benchmarking, on Modern Analyst



# Context Diagrams

Friday, December 4, 2020 2:28 PM

## Definition

A context diagram (also referred as system context diagram, SCD) is a commonly used tool by business analysts to understand the context of an application or system being examined. A SCD represents all external entities that may interact with a system. Such a diagram pictures the system at the center, with no details of its interior structure (think Black Box), surrounded by all its interacting systems, environments and activities. The objective of the SCD is to focus attention on external factors and events that should be considered in developing a complete set of systems requirements and constraints.

One thing to note here is, in Business analysis, Context diagrams' main focus is have a more efficient communication with stakeholders, and NOT to provide data flows to the developers.

## Usage:

At a high level, context diagrams can be used to

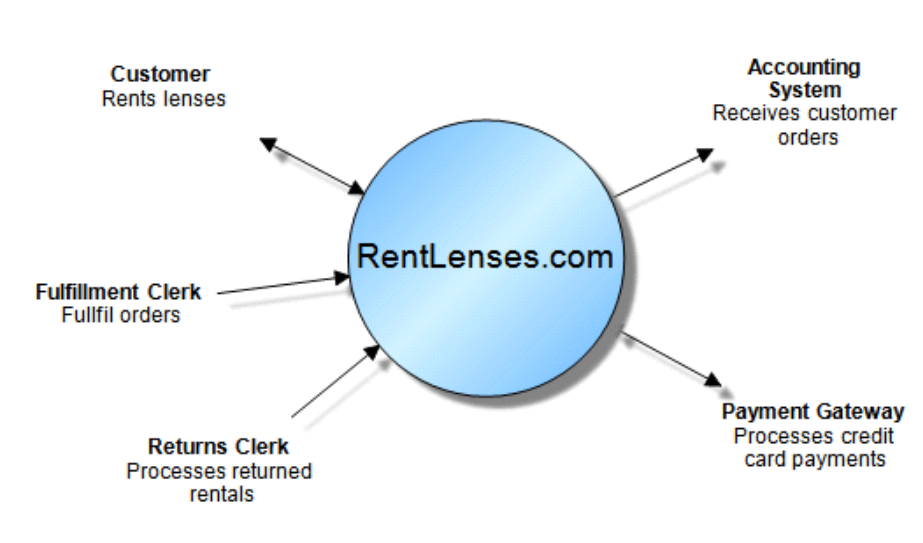
1. Analyze an existing system, its users and upstream and downstream applications it interacts with.
2. Identify Stakeholders.
3. Conceptualize the solution system.
4. Analyze a business unit and the entities it interacts with.

## How to use

Because it's an overview and lacks much detail, this diagram is an easy way to start building momentum in your requirements gathering process.

Create a context diagram by drawing a circle in the center of the page. If your system has a name, use it to label the circle. If it doesn't have a name yet, just label the circle as "System." Then list each of the external entities around your system and draw a line between the entity and the system. If it's not obvious why an entity belongs on the diagram, make a note about the interaction between the system and the entity. Specifically, note what information is passed and who it is passing it (the system or the entity).

Below is a context diagram example for a fictitious website named RentLenses.com. This website allows photography enthusiasts to rent expensive camera lenses by the week.



**End Result**

At the end of this exercise a BA should have a context diagram which can be used to help determine the scope of the effort that is being undertaken.

**Resources**

1. Wikipedia article: System Context Diagrams
2. Article: Introduction to Context Diagrams, by Morgan Masters, on Modern Analyst.
3. Blog Post: What is a Context Diagram and What are the Benefits of Creating One?, from the Modern Analyst BA Interview Questions blog.
4. Blog Post: The Context Diagram: Getting Started with Use Cases, by Matt Terski, on The Use Case Blog.
5. Wiki Entry: Project Context Diagrams

# Data Dictionary

Friday, December 4, 2020 2:27 PM

## **Definition**

A data dictionary (DD) is defined in the IBM Dictionary of Computing as a centralized repository of information about data such as meaning, relationships to other data, origin, usage, and format. However, as a BA, one should be aware that the term data dictionary can have several meanings depending on the context. A data dictionary can be:

1. A read-only set of tables that provides information about a database.
2. An automated tool for collecting and organizing the detailed information about system components.
3. A reference that includes standard definitions of data elements, their meanings, and allowable values.
4. A collection of data about the data, with the purpose of rigorously defining each and every data element, data structure, and data transform.

## **Types**

At a high level, BA's utilize two or three types of data dictionaries.

1. Logical DD
2. Physical DD
3. A combination of the above two.

A **logical data dictionary** typically describes information in business terms and focuses on the meaning of terms and their relationship with other terms. For example, from the business perspective there may be a data entity called Client, which includes Client Name, Client ID, and Order History attributes. Once defined, a logical data dictionary rarely needs to change.

A **physical data dictionary** describes the physical attributes of a data element. It answers questions like:

- What is the data type (string, boolean, integer, etc.)?
- What is the maximum length?
- What is the format?
- What is the data encoding standard (ANSI, UTF-8, etc.)?
- Where is the data physically stored (database name, column, row, etc.)?

Unlike logical DD, the physical attributes can change much more frequently. And because the data element could be stored in multiple databases with different physical structures, there may be different physical data dictionaries that include the same logical data entity.

Traditionally, a BA creates the logical DD as part of their requirements, and then it would convert into physical DD as part of solution and design phase of the project.

## **Usage**

Data dictionary can be very beneficial for

- Labeling information consistently, with agreed-upon definitions for data elements and a common set of properties for each data element, makes systems and data analysis easier and business intelligence more effective because of the access to high data quality information that the data dictionary enables.
- Describing data elements and the use of a defined set of properties for each data element reduce or eliminate the creation of redundant data elements.
- Using a common set of properties for each data element and consistent labeling of data elements

ensure that business and programmer analysts can easily identify relevant data to support implementation of business requirements.

- Providing a way of organizing all of the data elements that are relevant to a particular software system.

### **How to Create Data Dictionary**

- ☐ **Step 1: Define the location of your DD.** Where will you house this data dictionary? Some options could be-

- Excel
- Requirement management tool
- A Collaboration tool, that the team shares.

- ☐ **Step 2: Define the type of DD.**

- Is the DD going to be purely Logical, physical or a combination of both?

- ☐ **Step 3: Define the structure.**

Depending on the answer to step 2, define the skeleton structure of the DD. At a high level, following can be used as a guide to create the template. Please note that this is not intended to be a comprehensive list of all attributes. Take this as a guide, and add new attributes you may use.

### **Logical Data Dictionary**

Attribute Name	Description
ID Code	Every data element in the dictionary should have a unique identification outside of its name. This might be a number, or an alphanumeric combination.
Name	Every data element in the dictionary should have a unique name.
Aliases	If the data element is potentially referred to by more than one name, the additional names can be recorded as aliases (or synonyms). For example, an element named Price may also be referred to as Cost or Value. Thus Cost and Value would be recorded as Aliases of Price
Definition	Every attribute should include a definition that precisely defines the element associated with the Name, and which distinguishes it from other elements that may be similar.
Formula	This specifies if the value being defined should be calculated using a specific formula.
Unit	If the data element should be specified in a specific unit of measurement (such a miles, centimeters, or a currency)
Update Frequency	This attribute how often the business expects the element value to be updated. This may be daily, weekly, monthly, point in time (if updates occur on a non-scheduled basis such as when a client changes their mailing address), or other values.
Definition Source	It is often a good idea to keep track of who provided a specific element definition.
Range of Values	This is the possible range of values the element needs to support. This could be a range of numbers, a set of letters, or one of a specific set of values (such as State abbreviations if part of an address)
Time Dimension	Frequently, a business can want the same value but over a different period of time. For example, a business want to know the total amount of sales to a customer over a

	1-month, 6-month, 1-year, and lifetime period. This attribute can also interact with the Update Frequency attribute to provide different results, so there could be a 1-year sales total that is updated on once a year on January 1st to provide a calendar year value, and another 1-year sales total that is updated daily to provide a rolling value.
History Required	For some elements, the business may want to maintain not just a current value, but past values as well. For example, if the business was tracking a daily sales total, they may want to maintain specific daily values for the prior 5 years.
Notes	This attribute field can be used to provide specific examples, background, or other points of information that the BA feels appropriate.
Components	If the element is a compound element, this attribute can be used to indicate the component elements that are incorporated into this element. This can also be used to indicate the relationships with the component elements (mandatory, optional, 1 to 1, 1 to many, etc)
Owner	This is the owner of the data value that is being defined. This is usually the business unit or person who is responsible for the data in question. This might mean that they are responsible for the system that generates the data, or are the subject-matter expert for the ensuring the quality and accuracy of the data in question.
Domain	This is the context in which the data element exists. For example, data elements within a client domain may include client ID, first name, last name, address, city, state, zip code, order history, preferred payment method, and other data elements that are related to the client. Sometimes a data element can be part of more than one domain.
Default Value	This specifies if the data element has a default value, and if so what that value is.
Security Classification	If the data element has a particular security classification that should control its use or access to the data, it might be noted here. An example might be sensitive client data (such as Social Security Numbers in the U.S.) that a firm might have to store for regulatory purposes, but for which access should be restricted and which should not be made public.

#### Physical Data Dictionary

Attribute Name	Description
Size	If the element has a specific size (25 characters), or a maximum size (100kb), it should be documented here
Database Name	The name of the database the element is stored in
Database location	The specific location (column, row, record, etc) in a database that the element is stored in.
Data Type	The type of data the elements is stored as. This can include a Boolean value, integer, number, record, or a number of other specific data types.

#### Step 4: Define process

Define how the version control and change process will look like for the data dictionary. Since a lot of times DD is worked on parallelly by the BA, Developers/Data Engineers, QA, version control becomes all the more important. This can be achieved by a simple table where every change made by the team members is logged.

#### Step 5: Add data elements

Start defining your data elements. Ensure that each data dictionary entry defines only one data element.

A data element can either be **primitive** or **composite**. Primitive data elements are those that cannot be deconstructed any further. Composite data elements are those that are made up of or incorporate primitive data elements.

For example, a name element is generally a composite data element that is made up of the following primitive data elements: first name, middle name, family name, and name suffix.

#### Step 6: Verify the data attributes and Data Dictionary

The attributes in the dictionary should be verified with all stakeholder groups in order to reach agreement on naming, definitions, attributes, formulas, and other critical attributes of the data.

#### **End Result**

The end result of a data dictionary building process should be a single artifact that:

1. Uniquely identifies all attributes that are being used by a system that are used, created, or impacted by a solution effort.
2. Ensures consistent naming of data to ensure that the everybody involved in the solution effort understand exactly what is meant by any data reference.
3. Provides an easy-to-use reference for both the business and technical stakeholders to leverage for reporting, development, and similar needs.
4. Supports future development and support efforts by precisely defining every data element and its related attributes.

#### **References**

1. IBM Dictionary of Computing.
2. BABOK Guide.
3. Wikipedia Entry - Data Dictionary
4. Structured Analysis Wiki - Data Dictionaries
5. Business Data Dictionary Template - Project Connections web site.

# Decision Tables

Thursday, January 20, 2022 4:14 PM

## Definition

Decision tables are a concise, visual representation for specifying which actions to perform, given certain conditions. They express a complex set of business rules by defining threshold value conditions and actions in the cells of the table.

Decision tables are a way of organizing conditional logic into tabular form. Conditional logic can be a set of tests, and a set of actions to take as a result of these tests.

The output of decision tables are a set of actions. Each row in the table can be thought of as a single rule in a table made up of many rules.

## Diagram

The most common form of decision tables organizes the conditional logic into four quadrants:

Conditions	Conditions Table
Actions	Actions Table

- ✓ **Conditions:** A list of conditions or tests. A condition is a predicate test that must evaluate to true for the associated action to be executed. If a decision table rule uses multiple conditions, all conditions for a row must evaluate to true for the action to execute. Condition tests might be looking to match the exact value of an incoming field's value, or might be comparing an incoming value for whether it is greater than, less than, greater than or equal to, or less than or equal to a specified value.
- ✓ **Actions:** List of actions to be performed
- ✓ **Condition Table:** Indicates for each column what result from each condition is necessary for this column to execute.
- ✓ **Action Table:** For each column, provides a value for each action that should execute in that cell.

## Types

The information expressed in decision table can be represented in the form of a decision tree, or in a programming language as a series of if-then-else and switch-case statements.

A decision table is made up of columns where each column represents one condition or one action.

1. A **balanced decision table** is a decision table where every path through the logic is defined. The first condition must have a 'Yes', 'No' or blank in every column used.

Printer troubleshooter									
Conditions		Rules							
		No	No	No	No	Yes	Yes	Yes	Yes
		Yes	Yes	No	No	Yes	Yes	No	No
		No	Yes	No	Yes	No	Yes	No	Yes
Actions	Check the power cable			✓					—
	Check the printer-computer cable	✓		✓					—
	Ensure printer software is installed	✓		✓		✓		✓	—
	Check/replace ink	✓	✓				✓		—
	Check for paper jam		✓		✓				—

This second decision table is an example of a balanced decision table because it describes every combination of conditions possible, either using a 'Y', 'N' or blank. A blank field is succeeded regardless of the value of the condition. For example, Column 1 will execute if the first condition (A == 0) is true, and the third condition (A == B) is true, independent of the results of the second condition (B > 5).

Conditions	1	2	3	4	5	6
A==0	Y	Y	N	N	N	N
B>5			Y	Y	N	N
A==C	Y	N	Y	N	Y	N
Actions	1	2	3	4	5	6
Print "A is 0"	X	X				
Print "B>5"			X	X		
Print "A == B"	X		X		X	

2. An **unbalanced decision table** describes the business logic on a column by column basis, where one of the two options must be used to balance the tables.

- ✓ FIRST — A **FIRST unbalanced decision table** will execute the first column whose conditions are met, and only the first column whose conditions are met. The 6th column here is not specified or executed because nothing happens in that case. We don't have to specify 'N' for the first action in columns 3, 4 and 5 because that condition has nothing to do with the actions taking place in columns 3, 4 and 5.



Conditions	1	2	3	4	5	6
A==0	Y	Y				
B>5			Y	Y		
A==C	Y	N	Y	N	Y	N
Actions	1	2	3	4	5	6
Print "A is 0"	X	X				
Print "B>5"			X	X		
Print "A == B"	X		X		X	

- ✓ ALL — An **ALL unbalanced decision table** will execute every column whose conditions are met. All actions are executed in the order specified in the Decision Table, and actions are executed only once (even if their execution is indicated in multiple columns whose conditions are met). All the columns whose conditions are met will execute.

These tables are used when there are independent Condition/Action relationships that need to go into the same decision table. In our example, we wish to print "A==B" regardless of the value of A. This Condition/Action relationship is independent of the first two conditions (which both test the variable A, and which cannot both be true at once).

Consider how the conditions interact. The table tells the user exactly what conditions are required to print "A is 0" or "A == B".

Conditions	1	2	3
A==0	Y	N	
B>5		Y	
A==C			Y
Actions	1	2	3
Print "A is 0"	X		
Print "B>5"		X	
Print "A == B"			X

1. A **program embedded decision table** is embedded with computer programs used to "drive" the logic. Multiple conditions can be coded in a similar manner to encapsulate the entire program logic in the form of an "executable" decision table. There may be several such tables in practice, operating at different levels and often linked to each other (either by pointers or an index value).

Static decision table

Input	Function Pointer
"1"	Function 1 (initialize)
"2"	Function 2 (process 2)
"9"	Function 9 (terminate)

If the stub portion completely defines the condition (or action), it is called a **limited entry table**.

If the stub portion does not completely express the condition (or action) then it is called an **extended entry table**.

Conditions	Stubs	Entries
Actions		

Condition Stub	Condition Entry
Action Stub	Action Entry

- ✓ An **extended entry table** is where both the entry and stub section of any specific condition must be considered together to decide if a condition is applicable to a given rule. It's a decision table wherein the condition stub cites the identification of the condition but not the particular values, which are entered directly into the condition entries. When the conditions are mutually exclusive, one must be true. The "extended" name comes from a condition stub is an incomplete statement that is completed by the condition entry. This type of table is applicable in describing problems with few variables which may have many different values.

Condition	Rules		
	1	2	3
IS A>B	Y	-	N
IS A>C	Y	N	-
IS B>C	-	N	Y

Actions	Actions		

Condition	Rules		
	1	2	3
IS A>B	Y	-	N
IS A>C	Y	N	-
IS B>C	-	N	Y

Actions	Actions		
	1	2	3
Print A	X		
Print B			X
Print C		X	

- ✓ A **limited entry table** is so called because the conditions or actions required are contained within the appropriate stubs, symbols are used in the entry sections (e.g., conditions = Y, N or; Actions = numbers or blanks) to relate specific rules. This type of table is the most widely used in practice. It's a decision table wherein the condition stub specifies exactly the condition or the value of the variable.

	R1	R2	R3	R4	R5	R6
Is the passenger <2?	Y	N	N	N	N	N
Is the passenger between 2 and 18?	-	Y	N	N	N	N
Is the flight on Monday or Friday?	-	-	Y	N	N	N
Is the flight inside Germany?	-	-	-	N	Y	Y
Will the passenger stay more than 6 days?	-	-	-	-	Y	N
100% discount	X	-	-	-	-	-
40% discount	-	X	-	-	-	-
25% discount	-	-	-	X	-	-
20% discount	-	-	-	-	X	X
10% discount	-	-	-	-	X	-
0% discount	-	-	X	-	-	-

	1	2	3	4	5
Customer is bookstore?	T	T	F	F	F
Order size 5 copies or more?	T	F	T	T	F
Order size 20 copies or more?	-	-	T	F	-
Allow 25% discount	X				
Allow 15% discount			X		
Allow 10% discount				X	
No discount allowed		X			X

**TABLE 6**  
**LEDT for Modified Example**

Condition	$\omega^1$	$\omega^2$	$\omega^3$	$\omega^4$	$\omega^5$	$\omega^6$	$\omega^7$	$\omega^8$	$\omega^9$	$\omega^{10}$	$\omega^{11}$	$\omega^{12}$	$b_i$	$\delta_i$
$x_1$	Y	Y	N	N	Y	N	N	N	Y	N	N	N	3	1
$x_2$	Y	Y	N	N	N	Y	N	N	N	Y	N	N	7	1
$x_3$	Y	N	Y	N	Y	Y	Y	N	N	N	Y	N	8	1
	$B_1$				$B_2$				$B_3$					

### Usage

A decision table enables an individual to think through a problem and present its solution in compact notation.

Decision tables are used for organizing, and displaying decision logic. They help keep process models simple by providing the details of a step in the process. Commonly used for decision logic in requirements analysis when building the Business Requirements Document (BRD).

Decision tables also help us pause to identify all scenarios and puts the logic into an easy to read, discuss and review format. Conditions generate dozens of decision paths and decision models. Developers and testers also love to have this guide to make sure they're developing and testing the right scenarios and have clear results. Decision tables are a great technique for generating dialog about decisions and logic.

Tables can also force a programmer to think the whole problem through. If there are three conditions to be considered, each of which can be answered yes or no, then there are  $2^3 = 8$  possible paths or rules. Some of these conceivable paths may not, of course be pertinent to the problem. But by knowing the total number of paths, the programmer lessens the danger of forgetting one.

### How to Build a Decision Table

- ☐ **Step 1:** Create a template for a decision table using Excel and/or SAS. Start by building up the four quadrants with Conditions, Actions, Action Table, and Conditions Table (as seen in the Diagram above).
- ☐ **Step 2:** Define the result/decision to be made in the last column. Analyze the text for the decisions and scenarios. What decision does this logic support?

#### **Example:**

*Given information in the requirements:* \$20 shipping cost. Preferred customers always get free shipping and orders over \$50 get free shipping.\*

\*Rush orders excluded.

*Analyzed information:* Determine what costs the customer will pay for shipping.

- ☐ **Step 3:** Come up with the list of conditions/decisions by analyzing the rules for the text based conditions. Ideally, these will be conditions with binary (Yes/No) conditions. The average table has 2-4 conditions. Add these conditions as column headers on the table under "Conditions" with the last column reflecting Step 1.

**Note:** If you have multiple conditions, consider building multiple decision tables into one in

order to keep the decision logic and paths manageable.

**Example:** Are they a preferred customer? Is the order over \$50? Is the order under standard shipping or Rush shipping? What is the resulting shipping cost?

- ☐ **Step 5:** Come up with the list of actions/scenarios for each condition that contributes to making the decision. Determine how many possible scenarios there are. This can be calculated as follows:

$$\# \text{ of scenarios} = (\# \text{ of options})^{(\# \text{ of conditions})}$$

**Example:**

# of scenarios = (2 options each)^(3 conditions not including the last column for result)=2^3=8

This calculation tells us we will have eight rows (eight scenarios) in our conditions table.

Manually made in Excel:

ID	Conditions			Decisions
	Preferred Customer ?	Order over \$50?	Standard Shipping? Not Rush	Shipping Cost
1				
2				
3				
4				
5				
6				
7				
8				

- ☐ **Step 6:** Given the results, conditions, and the total number of scenarios, extrapolate out the 8 scenarios into the various cell combinations. In other words, carry out the decision logic for each cell path in this decision table (manually, or with code).

**Example:**

ID	Conditions			Decisions
	Preferred Customer ?	Order over \$50?	Standard Shipping? Not Rush	Shipping Cost
1	Y	Y	Y	
2	Y	Y	Y	
3	Y	N	N	
4	N	N	N	
5	N	Y	Y	
6	N	Y	Y	
7	N	N	N	
8	Y	N	N	

- ☐ **Step 7:** Determine the decisions of this logic by completing the results column. Gain

consensus on result column values. Create a visual representation of your decision table.

**Example:** Created in excel. Manually carried out each decision logic path.

ID	Conditions			Decisions
	Preferred Customer ?	Order over \$50?	Standard Shipping? Not Rush	Shipping Cost
1	Y	Y	Y	\$0.00
2	Y	Y	Y	\$20.00
3	Y	N	N	\$20.00
4	N	N	N	\$20.00
5	N	Y	Y	\$0.00
6	N	Y	Y	\$0.00
7	N	N	N	\$20.00
8	Y	N	N	\$0.00

### Steps for Writing Decision Tables in Code

- ☐ **Step 1:** Define the problem accurately that has to be solved by a computer.
- ☐ **Step 2:** List out all the conditions to be tested in the problem.
- ☐ **Step 3:** List out the corresponding actions that should be taken with each combination of conditions.
- ☐ **Step 4:** Form a decision table using the two lists.

### References:

1. Wikipedia article: [Decision Table](#)
2. Article by Paul Snow: [Decision Tables](#)
3. Online TIBCO StreamBase Documentation: [Decision Table Introduction](#)
4. Article by Priyali Sharma: [Decision Tables of a Programmer: Meaning, Types and Advantages](#)
5. Video: [Requirements Elicitation and Analysis](#) by Angela Wick
6. Online Encyclopedia: [The Free Dictionary](#) by Farlex
7. Article by Mentor Way: [What Are the Decision Tables? Types, Advantages, & Disadvantages](#)

# Decision Trees

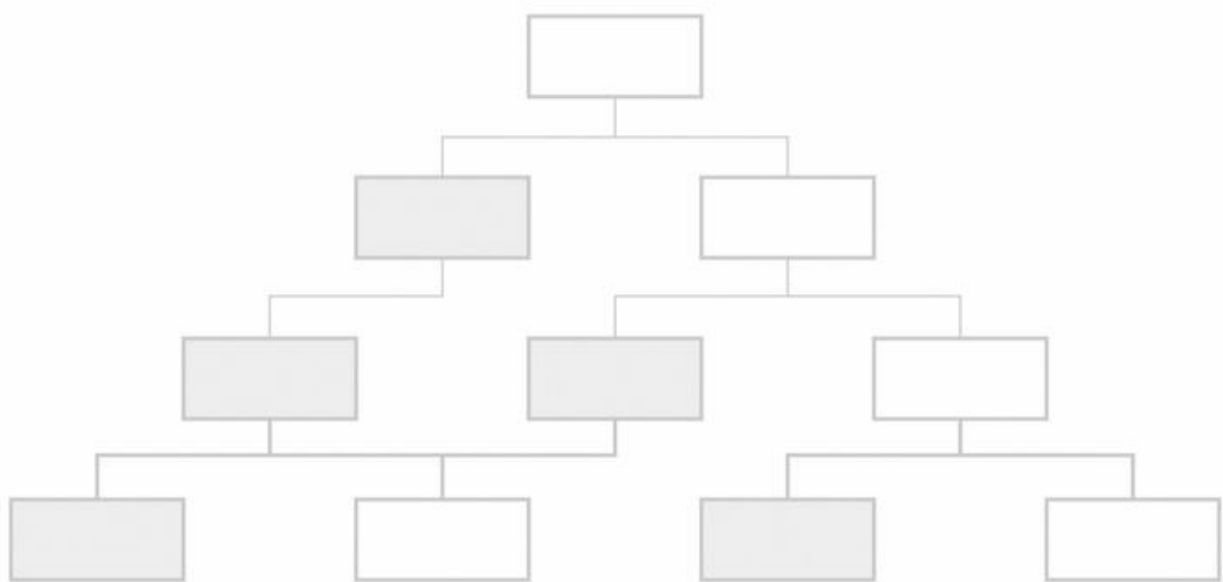
Wednesday, January 26, 2022 10:20 AM

## Definition

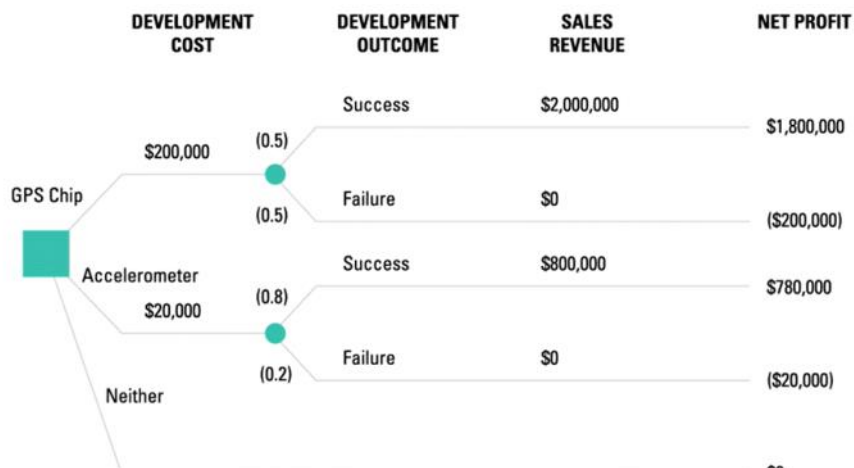
Decision trees are a way of thinking about possible investment decisions, the risks associated with those decisions, and then calculating expected values to make an educated choice between those possible outcomes. Decision trees are the most common visual model for decision theory. It is a flowchart-like structure with nodes and branches that with one main idea and then branches out based on the consequences of your decisions.

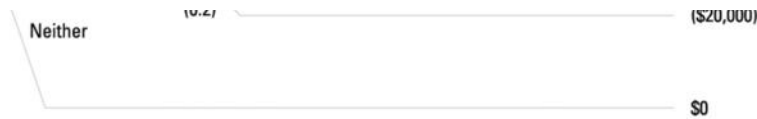
Decision tree analysis involves visually outlining the potential outcomes, costs, and consequences of a complex decision. Figure out what might happen, then continue down the best route on the decision tree.

## Diagram



## DECISION TREE





## Usage

- Decision trees are useful in predicting the probability of a risk or outcome occurring. This offers insight towards which decision should be made, with the best possible outcome. Decision trees help us determine worst, best, and expected values for different scenarios.
- Decision trees can be used for budgeting and planning.
- Can be used for binary classification challenges with supervised machine learning. This is done by setting up predictors that match to some outcome. It shows how a machine makes decisions by creating a graphical tree for your presentation.
- Decision trees are helpful for analyzing quantitative data and making a decision based on numbers.

## Vocabulary

- ✓ **Decision nodes:** Decision nodes are squares and represent a decision being made on your tree. Every decision tree starts with a decision node.
- ✓ **Root node:** the initial decision node that starts off the whole decision tree.
- ✓ **Chance nodes:** Chance nodes are circles that show multiple possible outcomes.
- ✓ **End nodes:** End nodes are triangles that show a final outcome.
- ✓ **Alternative branches:** Alternative branches are two lines that branch out from one decision on your decision tree. These branches show two outcomes or decisions that stem from the initial decision on your tree.
- ✓ **Risk** = (Probability of risk happening) x (the impact of the risk). It's good practice to make a list of all the possible risks that could occur before drawing a decision tree: What is the impact of this risk? What is the probability of this risk occurring?
- ✓ **Decision Theory:** the mathematical study of strategies for optimal decision-making between options involving different risks or expectations of gain or loss depending on the outcome.

## How to Build a Decision Tree ( By Hand Method)

How to use a decision tree to calculate the expected value of each outcome and assess the best course of action:

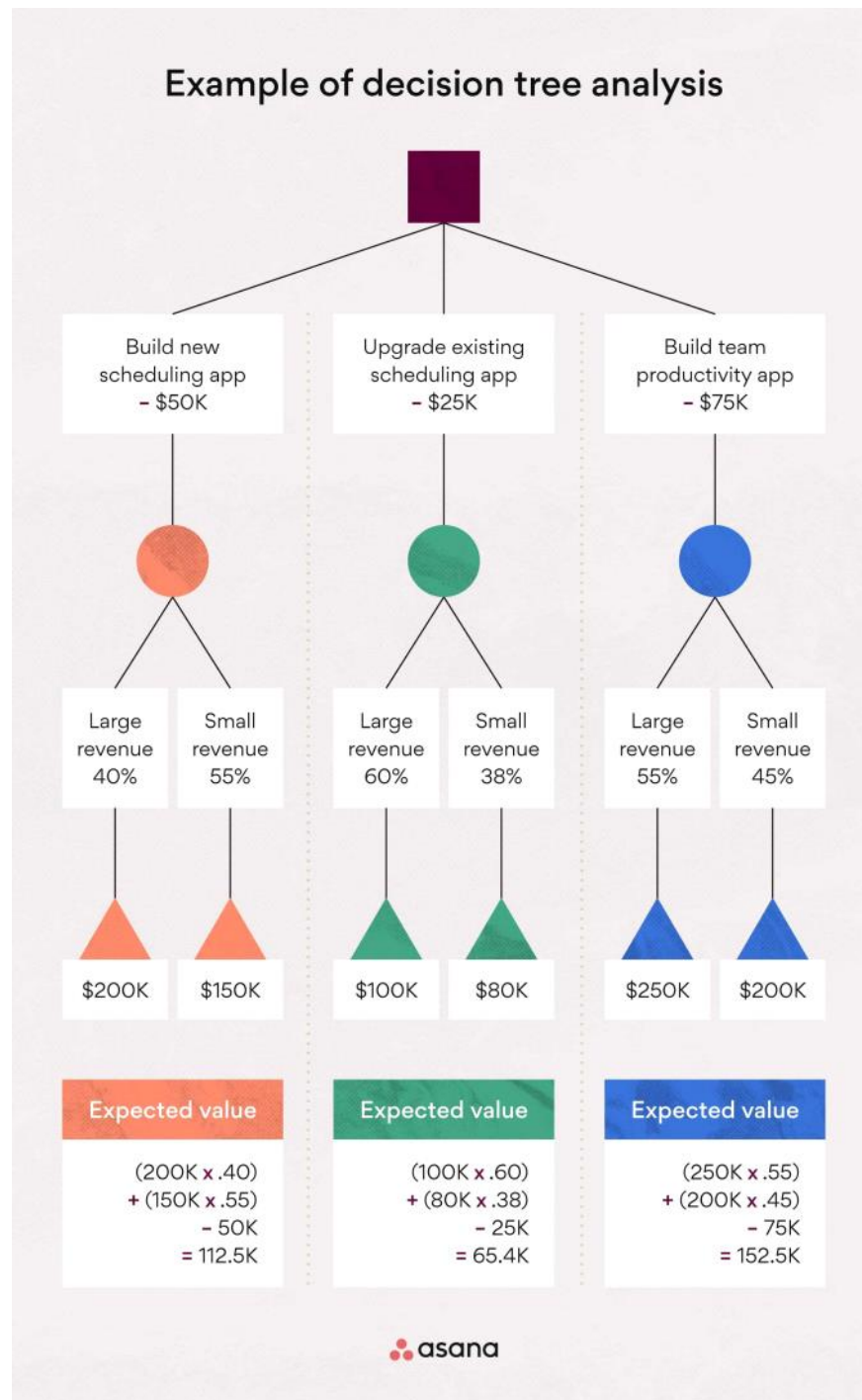
- ☐ **Step 1:** Begin your diagram with one main idea or decision. You'll start your tree with a decision node before adding single branches to the various decisions you're deciding between. Choose that as your first decision node (Root node).
- ☐ **Step 2:** Add decision nodes. After adding your main idea to the tree, continue adding chance or decision nodes after each decision to expand your tree further. A chance node may need an alternative branch after it because there could be more than one potential outcome for choosing that decision.
- ☐ **Step 3:** Expand until you reach end points. Keep adding chance and decision nodes to your decision tree until you can't expand the tree further. At this point, add end nodes to your tree to signify the completion of the tree creation process.
- ☐ **Step 4:** Calculate tree expected values.

$$\text{Expected value (EV)} = (\text{First possible outcome} \times \text{Likelihood of outcome}) + (\text{Second possible outcome} \times \text{Likelihood of outcome}) - \text{Cost}$$

Calculate the expected value by multiplying both possible outcomes by the likelihood that each outcome will occur and then adding those values. You'll also need to subtract any initial costs from your total.



- **Step 5:** Evaluate outcomes. Once you have your expected outcomes for each decision, determine which decision is best for you based on the amount of risk you're willing to take. The highest expected value may not always be the one you want to go for. That's because, even though it could result in a high reward, it also means taking on the highest level of project risk.



### How to Build a Decision Tree ( Binary classification with supervised machine learning Method)

**Example Problem:** Create a decision tree to predict whether or not a person will go to the beach.

- **Step 1:** Create a list of your predictors that relate to your problem.

**Example:** Create the predictors:

Sky = records weather as overcast, rainy, or sunny

Weekend = records whether or not it is a weekend

Windspeed = records whether it's a windy day

- **Step 2:** Create One Outcome variable, because this is a binary classification problem.

**Example:** Create only one outcome variable.

Person A goes to the beach = records if person A will go to the beach this weekend or not

- **Step 3:** Create some training data out of actual data that has been collected.

**Example:** This can be put in a simple table with four columns.

[illegible]

Filled in with training data:

Predictors			Outcome
Sky	Weekend	Wind	Yash goes to the beach
Sunny	Weekday	Low	No
Sunny	Weekday	High	No
Overcast	Weekday	Low	Yes
Rain	Weekday	Low	No
Rain	Weekend	Low	No
Rain	Weekend	High	No
Overcast	Weekend	High	No
Sunny	Weekend	Low	Yes
Sunny	Weekend	Low	Yes
Rain	Weekend	Low	No
Overcast	Weekend	Low	No
Overcast	Weekday	High	No

- **Step 4:** Now to create the decision tree out of our table, we will need to make a graphical interpretation of this data. We need to split our data based on the predictors. Choose a predictor at random to be the root

node (it can be any predictor). The root node is at the trunk of building our decision tree.

**Example:** Sky is the root node with 3 possible values.

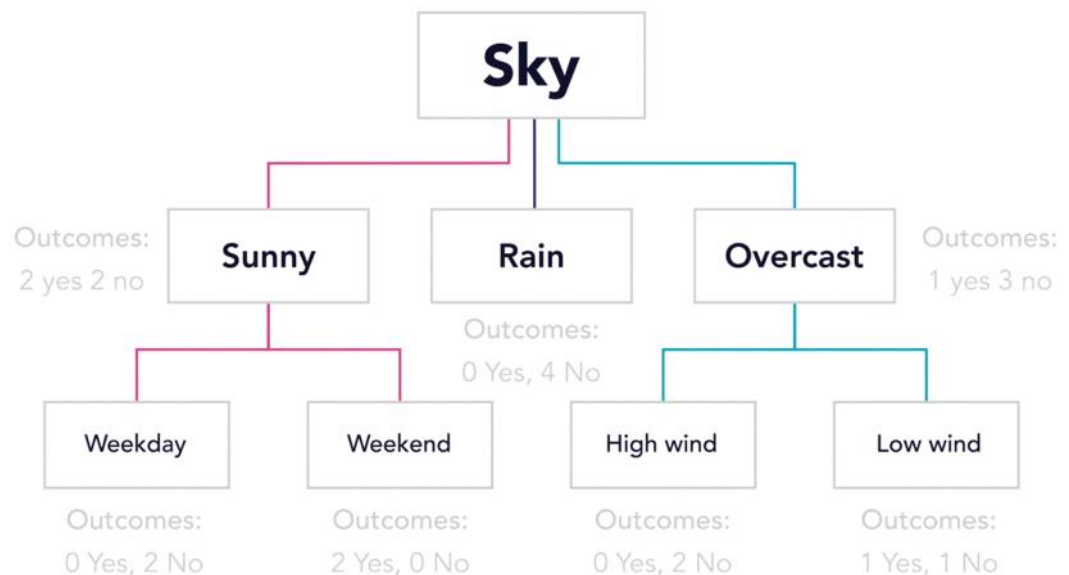


Below the root node, we have the decision nodes, which contain each option/value for our root node.



- ☐ **Step 5:** Continue with the next set of outcomes in the decision tree. Remember, decision trees want binary outcomes. Continue building leaves/child nodes on the decision tree until there are no more options for attributes to use as decision nodes. You want a clear path to a yes or no outcome. It is best to avoid entropy.

**Example:** Did Person A go to the beach or not? In each of these decision nodes, the total number of possible outcomes is recorded from the training data.



□ **Step 6:** Interpret the results of the decision tree.

**Example:** There are 3 scenarios where Person A goes to the beach, and 9 scenarios where they stay home. These different outcomes will help us break the decision node down into several different leaf nodes. Leaf nodes are the second set of predictors that are possible outcomes at the decision node. There are no leaf nodes for when the decision node is rainy. This means that there are no outcomes where it's a rainy day, and person A still goes to the beach. You do not have to go any further since there's no other option left.

**Further Steps:** Decision trees can be prone to overfitting. They can be combined for bagging or boosting machine learning models.

## **References**

1. Video: [Introduction to Decision Trees](#) by LinkedIn Learning
2. Wikipedia article: [Decision Trees](#)
3. Video by LinkedIn Learning: [Artificial Intelligence Foundations: Machine Learning](#)
4. Video: [How to build a decision tree](#) by Ayodele Odubela
5. Online Asana article: [What is decision tree analysis? 5 steps to make better decisions](#)

# Decomposition- Functional and Otherwise

Wednesday, January 26, 2022 1:28 PM

## Definition

Decomposition is the process of breaking complex entities down into sub-parts. These complexities can be processes, technology, systems, goals, requirements, business problems, or business needs. Breaking these parts down with decomposition even more, the complex entity is broken down for easier understanding.

A common output of a decomposition is a hierarchical diagram of some sort, such as the Functional Decomposition Diagram. The sub-components (the children) of something that is decomposed should completely describe the component (the parent) that has been decomposed.

## Types

Koopman theory describes three basic types of decomposition:

1. **Structural Decomposition:** The decomposition of physical components, logical objects, attributes, fields, and design arrangements.

Structures are physical components, logical objects, attributes, fields, or arrangements of other structures within a design. Structures typically answer the question of what in a design, and are typically described using nouns and adjectives.

2. **Behavioral/Functional Decomposition:** The decomposition of an action, force, process, or control that is exerted on or by a structure with respect to the structure's external environment.

Behaviors typically answer the questions of how and when in a design, and are typically described using verbs and adverbs.

Functional Decomposition exists in mathematics (for decomposing formulas and mathematical problems), signal processing, machine learning, database theory, knowledge representation, software development, and systems engineering with

3. **Goal Decomposition:** The decomposition of goals.

Goals are emergent properties that satisfy the needs which the effort or design is intended to fulfill. They include any result that is not directly available as an off-the-shelf building block. Goals thus include performance targets, costs and aesthetics.

- **Strategic goals** are decomposed into departmental and business unit goals such as customer satisfaction, profitability measures, and market share.
- **Project goals** are decomposed into specific, measurable results or objectives. This includes cost limits, number of bugs, or development time.
- **Personal goals** are decomposed into specific milestones.

## Cohesion and Coupling

The measure of a good decomposition effort is that the sub-units have high cohesion and high coupling only within themselves, and low cohesion and low coupling with any other sub-groups.

The concepts of Cohesion and Coupling are key to well executed functional decomposition. However, they can also be applied to structural and goal decomposition as well.

- ✓ **Cohesion:** Cohesion is simply a measure of how similar functions in a group are. The greater the cohesion between two or more functions, the more likely they should be grouped together in decomposition results.

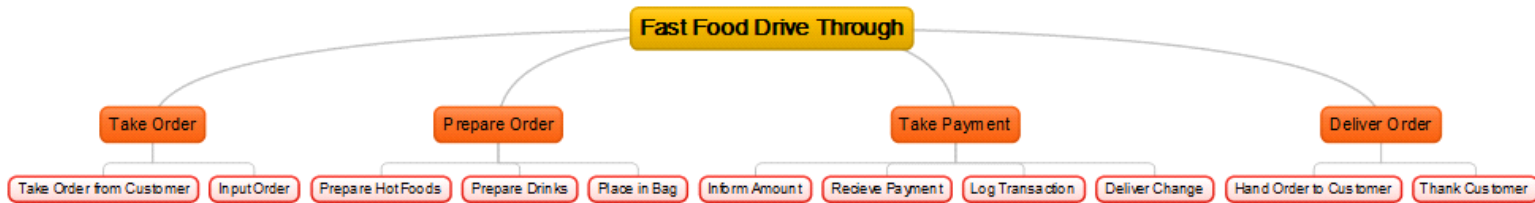
- ✓ **Coupling:** Coupling is a measure of interdependence between two or more functions. Changes to a function or function group with low coupling would affect very few other functions outside of its function group.

### Diagram

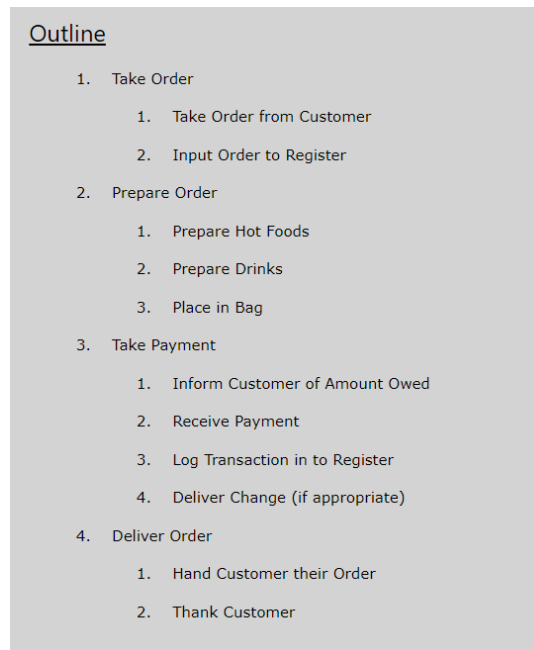
Different methods of documentation include:

- A functional decomposition diagram
- An outline structure
- A table structure.

The following is a Functional Decomposition Diagram using the idea of a functional breakdown of the drive-thru window of a typical fast food restaurant.



The following is an example of a simple outline structure for decomposition.



The following is an example of a table method decomposition. This method is commonly used when you want to capture additional information about a function.

Number	Action	Actor
1	Take Order	Cashier
1.1	Receive Order from Customer	Cashier
1.2	Input Order into Register	Cashier
2	Prepare Order	Cook / Window Attendant
2.1	Prepare Hot Foods	Cooks
2.2	Prepare Drinks	Window Attendant
2.3	Place Food in Bag	Window Attendant
3	Take Payment	Cashier
3.1	Inform Customer of Amount Owed	Cashier
3.2	Receive Payment	Cashier
3.3	Log Transaction into Register	Cashier
3.4	Deliver Change (if appropriate)	Cashier
4	Deliver Order	Window Attendant
4.1	Hand Customer their Order	Window Attendant
4.2	Thank Customer	Window Attendant

## Usage

- Decomposition can be used to assist in the process of analysis by breaking problems down into smaller component parts.
- Decomposition helps in defining Scope in a Business Requirements Document (BRD). This allows the project team to clearly specify from a functional decomposition diagram, which functions are in scope, and how they relate and roll-up into larger feature sets. The elicitation and analysis process can use decomposition to transform greater business goals and needs into actual requirements.
- Decomposition is useful for elicitation and analysis by identifying areas that need more detail/work. This provides a visual model of the functions that have been identified.
- Decomposition is useful for identifying current system functionality for an undocumented system that needs to be replaced.
- Decomposition of Logical objects is useful in preparation for object modeling.
- Decomposition of Data objects is used for creating a data map, data dictionary, or data flow
- Decomposition of Organizational units is useful for organizational modeling.
- Decomposition of System components is used as part of solution analysis.

## How to conduct Functional Decomposition

- ☐ **Step 1:** Decide the what and how of the decomposition effort. Identify the area that will be decomposed (the process, the goal, business function, etc.).
- ☐ **Step 2:** Decide the level of detail that will be needed. A quick outline?
- ☐ **Step 3:** Decide what type of documentation will be generated to show the results of the decomposition effort.
- ☐ **Step 4:** Work with the customer / SME if appropriate to identify the main components that are within the focus area.
- ☐ **Step 5:** Review each of those main functions to identify any sub-components within them.
- ☐ **Step 6:** Review all identified components to determine if they need further decomposition.
- ☐ **Step 7:** Check for completeness.
  - ☐ Are all aspects of the entity under review that should be captured represented?
  - ☐ Are the components correctly organized into discreetly related groups?
  - ☐ Is further decomposition needed?
- ☐ **Step 8:** Repeat and Refine the results until all business and project team members are satisfied with the

completeness and level of detail.

- ☐ **Step 9:** If desired, each component can be documented in a consistent way so that each component:
  - ☐ Has a unique name
  - ☐ Describes how it fits into its current group, and each group above it
  - ☐ Identifies any business rules for that component
  - ☐ Identifies any triggers (incoming or outgoing)

## **References**

1. Online Wikipedia for BAs: [Decomposition - Functional and otherwise](#)
2. BABOK 2.0: Functional Decomposition, Section 9.12, pages 174-176
3. Wikipedia: [Functional Decomposition](#). Accessed on 11/26/2013.
4. Wikipedia: [Decomposition \(computer science\)](#). Accessed on 11/26/2013.
5. Book: Determining Project Requirements. Hans Jonasson. ESI International Project Management Series. Auerbach Publications. 2008
6. Book: Seven Steps to Mastering Business Analysis. Barbara A. Carkenord. Pages 237-240. J. Ross Publishing. 2009.
7. Paper: [A Taxonomy of Decomposition Strategies Based on Structures, Behaviors, and Goals](#). By Philip J. Koopman Jr. 1995
8. Thesis: [Categorization and Representation of Functional Decomposition by Experts](#). By Paul W. Melancon. Naval Postgraduate School. 2008



# Document Analysis

Wednesday, January 26, 2022 4:30 PM

## Definition

Document analysis is the process of gathering qualitative research, and interpreting/summarizing the main points of a research document. This core BA technique involves the Business Analyst reviewing existing documentation in order to gather/elicite information they need in order to more effectively do their job.

## Types of Documents to Analyze

There are three primary types of documents:

- ✓ **Public Records:** The official, ongoing records of an organization's activities. Examples include student transcripts, mission statements, annual reports, policy manuals, student handbooks, strategic plans, and syllabi.
- ✓ **Personal Documents:** First-person accounts of an individual's actions, experiences, and beliefs. Examples include calendars, e-mails, scrapbooks, blogs, Facebook posts, duty logs, incident reports, reflections/journals, and newspapers.
- ✓ **Physical Evidence:** Physical objects found within the study setting (often called artifacts). Examples include flyers, posters, agendas, handbooks, and training materials.

## Usage

- Document analysis is used if the objective is to gather details of existing solutions, including business rules, entities, and attributes
- Useful for eliciting requirements for a business requirements document (BRD)
- Document analysis can help the BA learn about a new business unit they are engaging with or a new aspect of a business unit they have already worked with
- When first engaging with a project that is already underway or a new project that is an evolution of a past effort
- The business analyst needs to learn more about an existing system

## How to Conduct Document Analysis

The Document Analysis BA technique is commonly undertaken in three stages.

### ☐ **Stage 1: Preparation.**

- ☐ Determine what documentation is available.
- ☐ Determine which documentation is relevant.
- ☐ Out of the relevant documents, which are the most appropriate for the study given the objectives the project is aiming to achieve.

### ☐ **Stage 2: Review.**

- ☐ Extract relevant information that adds value.
- ☐ Take note of questions that the documentation raises so that you can follow-up with SMEs later.
- ☐ Look for references to other documentation that you may not have come across in your initial search that may be relevant to your effort.

### ☐ **Stage 3: Wrap-Up.**

- ☐ Organize and analyze the information extracted from the documents.
- ☐ Follow-up on any appropriate document references to continue the document analysis process.
- ☐ Review any questions captured with the appropriate subject-matter experts (SMEs) in order to elicit answers and identify further questions.

## References

1. Article online: [An Introduction to Document Analysis](#)
2. The Guide to the Business Analyst Body of Knowledge (BABOK) v2; Section 9.9 -- Document Analysis; Page169
3. Blog: [What is Document Analysis?](#) By Modern Analyst

# Five Why's

Thursday, January 20, 2022 4:15 PM

## Definition

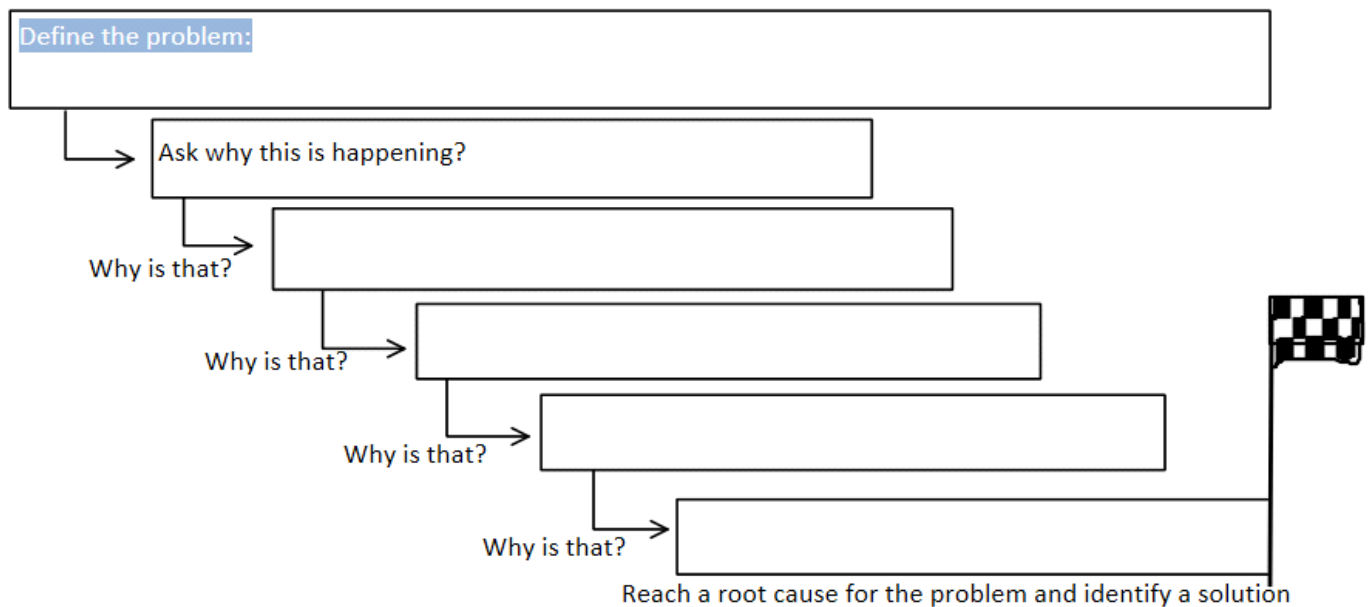
Every problem has a root cause. Getting to the source of the problem is critical to being more effective in developing a solution. The Five Why's is an iterative, interrogative BA technique used to explore the cause-and-effect relationships underlying a particular problem.

The primary goal of the Five Why's technique is to go beyond the surface to determine the root cause of an arbitrary problem by repetitively asking the question "Why?". Each answer from the previous question will form the basis for the next "Ok, but WHY ... ?" question one needs to ask... at least five times.

The name "Five Why's" is derived from the approach to finding a solution to any problem by just asking 5 follow-up "Why...?" questions. Ask a question. Get an answer. Then, the next question is, why?

You can ask yourself these questions, or brainstorm with a team. Multiple theories can be tested using the Five why's approach in order to nail down that one direct cause of the effect. Then, the problem can be solved.

## Diagram



## Usage

This BA technique is commonly used in root cause analysis. To find a solution to a problem, root cause analysis determines the exact source of the problem, and then how to fix it. This technique was developed by Toyota as a way to help teams analyze problems.

Root cause analysis can be performed two ways (either using the Fishbone Diagram or the Five Why's approach), but these tools use different thinking styles. The Fishbone Diagram is more visual while the Five Why's is a verbal approach, but they work beautifully together. For the sake of this BA technique, we are going to only focus on the Five Why's approach in root cause analysis.

The Five Why approach is used to better define the vision for our project and to clarify that we're

focused on a root cause, not on a symptom. The technique is for deepening one's understanding of the root causes of the challenge faced.

### **How to Use the Five Why's BA Technique**

Use simple questions like "why?" And "how?" to carve your own path towards understanding.

- ☐ **Step 1:** Define the problem.

**Example Scenario:** Pretend we have a company who is growing very slowly, but struggles to keep up with customer orders, is spending too much on overtime, and is losing track of inventory in the distribution center. They're also getting complaints from customers about late shipments. Let's start by asking "what is the problem?" and describing it.

- ☐ **Step 2:** Ask, why is this happening?

**Example Question:** Start with the big issue: Why are we having trouble filling orders as a company? The next question can also be based on, "Why is the answer to the last question, true?"

**Example Answer:** Because our distribution center can't handle the volume.

- ☐ **Step 3:** Ask, why is that?

**Example Next Question:** But our sales haven't grown that much, what changed? Why can't our distribution center handle the volume?

**Example Answer:** Because the type of orders being filled has changed and that has increased the number of shipments.

- ☐ **Step 4:** Ask, why is that?

**Example Next Question:** Why have we changed the orders?

**Example Answer:** Because we've gone from only replenishing in bulk to our stores, to also shipping individual items directly to customers.

- ☐ **Step 5:** Ask, why is that?

**Example Next Question:** Why have we begun shipping directly to individual customers?

**Example Answer:** Because more of our customers have shifted from buying in stores to buying online.

- ☐ **Step 6:** Ask, why is that?

**Example Next Question:** Why are more customers buying online?

**Example Answer:** Because it is more convenient and cost effective during the global COVID pandemic.

- ☐ **Step 7:** Continue asking more than 5 questions (if needed) to answer the question: Why is this happening?

- ☐ **Step 8:** Determine the root cause of the problem and work on a solution.

**Example Solution:** By asking the five Why's, we've discovered the real problem of our

distribution center is actually the result of a change in customer shopping habits. If we really wanted to address that challenge, then we need to better address these new customer expectations.

**End Result**

Asking and answering questions, five times in a row, will lead to insights about the real root cause of a problem. The end goal is to fully understand why there is a problem and work towards a direct solution.

**References:**

1. Wikipedia: [Five whys](#)
2. Article: [Root Cause Analysis Explained: Definition, Examples, and Methods](#)
3. Video: [LinkedIn Learning Root Cause Analysis](#)
4. Video: [LinkedIn Learning Five Why's](#)

# Glossary

Friday, January 28, 2022 1:36 PM

## Definition

A glossary is a list of definitions to terms and concepts used within the analysis, discussion, and classification of a solution. A glossary consists of a term relevant to the domain and a unique definition for each, as well as cross-referencing aliases. The list of terms and established definitions provide a common language that can be used to communicate and exchange ideas between stakeholders and BAs.

## Usage

- A glossary can be a key resource to your knowledge discovery and learning efforts when you begin work on a new project. The business analyst needs to learn how terms are used for this new domain of activity if you are to build the mental framework needed to elicit and analyze relevant information.
- Improved Communication between project members.
- A foundation for elicitation.

## How to Create a Glossary

- ☐ **Step 1:** Decide where the glossary will be stored, and what format it will take. Keep as separate documents, as SharePoint lists, in a corporate Wiki, or other locations.
- ☐ **Step 2:** Review existing business documents, process maps, and project documents; start identifying what look like important terms.
- ☐ **Step 3:** Create the template for the glossary (word doc, excel sheet). Will the glossary contain a separate column of synonyms or be listed as their own term?
- ☐ **Step 4:** Identify Terms. Define each term in the glossary by looking the term up in the dictionary and recording it. As glossary terms are identified, craft definitions for them. Glossary entry definitions can adopt following format: "X is a synonym of Y, most commonly used in circumstance A or by team C."

Traditional rules for crafting definitions:

- ☐ A definition must set out the essential attributes of the thing defined.
  - ☐ Definitions should avoid circularity. A definition of a term must not consist of terms which are synonymous with it.
  - ☐ The definition must not be too wide or too narrow. It must be applicable to everything to which the defined term applies (i.e. not miss anything out), and to nothing else (i.e. not include any things to which the defined term would not truly apply).
  - ☐ The definition must not be obscure. The purpose of a definition is to explain the meaning of a term which may be obscure or difficult, by the use of terms that are commonly understood and whose meaning is clear.
  - ☐ A definition should not be negative where it can be positive. We should not define "wisdom" as the absence of folly, or a healthy thing as whatever is not sick. Sometimes this is unavoidable, however.
- ☐ **Step 5:** Update and Revise. As terms come up that seem important or relevant in your enterprise analysis work, especially through activities related to current state analysis (such

as document analysis); add them to the glossary.

- ☐ **Step 6:** Consider adding your glossary to the requirements documents. This is to ensure that everybody is on the same page.

### **End Result**

Example of a glossary.

Term	Description
3c7	The section of the Investment Company Act of 1940 under which PRIVATE FUNDS operate. Sometimes used as a synonym for PRIVATE FUNDS.
3c11	The section of the Investment Company Act of 1940 under which COMMINGLED TRUSTs operate. Sometimes used as a synonym for COMMINGLED TRUSTs.
Account	An account is created to hold the assets owned by a client as a result of their investment in a PRODUCT through an INVESTMENT VEHICLE.
Ad-Hoc Report	A type of REPORT with content that is generated on request, rather than on a regular schedule. The content of the report is usually different than that of a SCHEDULED REPORT (often more info than a scheduled report).
Attribution	A performance-evaluation tool used to analyze the abilities of portfolio or fund managers. Attribution analysis uncovers the impact of the manager's investment decisions with regard to overall investment policy, asset allocation, security selection and activity. A fund or portfolio's returns are compared to a benchmark in order to determine whether a manager is actually skilled or just lucky. Attribution DATA is one of the most frequent types of CONTENT provided to CLIENTs in REPORTs.
Batch Report	A REPORT that is generated with other similar reports at the same time. Generally for different clients, but the content is the same. All Batch Reports must be FULLY AUTOMATED.
Benchmark	A standard against which the performance of a security, mutual fund or investment manager can be measured. Generally, broad market and market-segment stock and bond indexes are used for this purpose.
Caveat	A disclaimer or similar text that provides important Legal or Compliance information about a particular piece of CONTENT.
Chart	A visual representation of DATA. Charts are a type of CONTENT.
Chunk	A Chunk is a pre-defined group of DATA elements, CONTENT, and design elements that are packaged together for easy inclusion in a report without having to rebuild them from scratch. An example might be a performance chunk that bundles together a table with specific performance time periods for a portfolio and benchmark, a specific chart design of that data (say a bar chart), and some static text in the form of labels and standard disclaimers. The user would select the chunk and insert it into a report where the data elements would be mapped to the appropriate portfolio and benchmarks for defining what actual data values are used to populate the placeholders in the chunk
Client	The investor to whom investment management services are being provided. Client reporting needs are defined by their Investment Management Agreement or by the type of the INVESTMENT VEHICLE through which they have invested.
Commentary	A set of text that provides additional context to investment performance and/or investment outlook. Commentary is always point-in-time specific, and usually

	product / account specific. General economic outlook is an example of point-in-time specific commentary that is not specific to a particular product or account. Commentary is a type of CONTENT.
Commingled Trust	Commingled Trusts are offered under section 3c11 of the Investment Company Act of 1940. They are a class of INVESTMENT VEHICLE that are made up of a pool of assets that are jointly managed by the same entity under a common investment management strategy. Commingling the funds allows for greater efficiency and lower costs for the investors, while still allowing for daily trades. They MUST be administered by a bank and can only be provided to eligible employee benefit plans (ERISA clients), which are a type of INSTITUTIONAL CLIENT. Commingled Trust accounts are maintained on the accounting system of the administering bank.
Consultant	An outside party that provides investment planning, allocation, selection, and monitoring services to an INSTITUTIONAL CLIENT or potential institutional client.
Content	Content is the total information set that is used to populate a REPORT. Individual pieces of content are usually time, product, and/or context-specific (i.e. they are only true or relevant in regards to a specific time-period, product, or context). Content types include COMMENTARY, CHARTS, DATA, and DIGITAL ASSETS.
Data	Data is alpha-numeric information that is derived from some entity or value set (such as a set of portfolio holdings, a group of investors, a company, etc.). Data is typically, but not always, generated on a regular schedule (such as every month-end, every quarter-end, etc.). Data is a type of CONTENT.
Digital Asset	A separately maintained, standardized, piece of content with its own template (almost always as 1 or more slides in PowerPoint format) that can be included in a report on an optional basis. Created for standardized, rarely updated, pieces of content that are widely used in many reports. Digital Assets are a type of CONTENT.
Fully Automated Report	A category of current REPORTs which denotes those reports for which all CONTENT is available in the current reporting solution and for which no manual intervention by the reporting teams is required.
Holding	An asset owned by a CLIENT in their ACCOUNT. Accounts can have more than one type of holding and multiple specific holdings of the same type. Accounts in mutual funds, COMMINGLED TRUSTs, and PRIVATE FUNDS typically hold only shares of the pooled investments. SEPARATE ACCOUNTS can hold shares of pooled investments and stocks, bonds, cash, and all other individual investment asset types which the investment manager makes use of.
Institutional Client	Institutional clients are typically those who manage large pools of money on behalf of others. Typical institutional investors include pension funds, insurance companies, investment companies, savings institutions and foundations. They are considered sophisticated investors and are eligible to invest in products that cannot be sold or marketed to the general public. High Net Worth (HNW) individuals are frequently considered institutional investors as well.
Institutional Vehicle	Institutional investment vehicles are those which are exclusively or primarily provided to institutional investors. They typically have lower management fees than RETAIL VEHICLES but have very large minimum investment amounts. Examples can include separate accounts, institutional mutual funds, institutional share classes of retail funds, private funds, and commingled trusts.
Investment Vehicle	The term investment vehicle refers to any method by which individuals or businesses can invest and, ideally, grow their money. There is a wide variety of



	investment vehicles and many investors choose to hold at least several types in their portfolios. Investment vehicles can range from certificates of deposit through to hedge funds and similar highly complex vehicles. Different investment vehicle types usually have different requirements and restrictions for client reporting under which they operate.
Manual Report	A category of current REPORTs which is created via an entirely manual process. The report may use a standard-style template, but the data needed is not available in the current reporting solution.
Partially-Automated Report	A category of current REPORTs which is created partially in ACR, and then additional changes are made manually before the report can be provided to the client.
Private Fund	Private Funds are offered under section 3c7 of the Investment Company Act of 1940. They can only be offered and sold to INSTITUTIONAL, qualified, or accredited investors. Clients may only trade into or out of private funds once a month, on the first business day, and a maximum of 25% of the 3c7 fund assets can come from US ERISA investors. Private fund accounts are maintained on the accounting system of the investment manager.
Product	A product is a specific investment strategy offering made by an investment manager. Each product may be offered through several different INVESTMENT VEHICLE's so that investors can access the product through different price points and structures. For example, the Templeton Global Bond product can be invested in through U.S. RETAIL FUND, SICAV, and SEPARATE ACCOUNT vehicles.
Report	A set of content, usually presented in the structure and format specified by a TEMPLATE, provided to an appropriate party such as a CLIENT, CONSULTANT, or other recipient. Reports are usually time, product, and/or context-specific (i.e. they are about a specific account or product, for a specific time-period, or in regards to a specific context).
Reporting Period	A reporting period is the period of time which the information in a report is relevant to. Theoretically, a reporting period could cover any period of time. However, the most common reporting periods are weeks, months, quarters, semi-years (6 months), and years (1 year).
Retail Client	Retail clients are typically public individuals, or non-institutional entities. They are considered unsophisticated investors the products and marketing offered to them is highly regulated.
Retail Vehicle	A class of INVESTMENT VEHICLE that is approved for offering to the general public (RETAIL CLIENTs) for their investment needs, although INSTITUTIONAL CLIENTs may also invest in them. They typically have higher management fees and smaller initial investment requirements. Examples include SICAV's, US RETAIL FUNDS, ETF's, Closed-End Funds, Canadian Mutual Funds, and local investment offerings outside the United States and Europe.
Scheduled Report	A type of REPORT with fixed content that is generated on a specified recurring schedule.
Separate Account	A separate account is a type of INVESTMENT VEHICLE that is privately managed to buy individual assets. They differ from a mutual fund because the investor directly owns the securities instead of owning a share in a pool of securities.
SICAV	SICAV is the common abbreviation for SOCIÉTÉ D'INVESTISSEMENT À CAPITAL VARIABLE. SICAV's are the rough equivalent of the U.S. Retail mutual fund in Europe and are a type of open-ended investment fund in which the amount of capital in the fund varies according to the number of investors. Shares in the fund

	are bought and sold based on the fund's current net asset value.
Static Text	Static Text is a type of CONTENT that is not updated via automated systems. It normally refers to section labels, headers, and similar text that rarely changes.
Template	A template specifies the layout, structure, and general content of a REPORT. A template may also specify the file format that the REPORT is generated and / or delivered in.
Triggered Report	A type of AD-HOC REPORT which is generated based upon the occurrence of a trigger event specified in the Investment Management Agreement with a client. Examples of trigger events might be the departure of a portfolio manager, the bankruptcy filing of an equity issuer in the clients' portfolio, or the default of a bond in the clients' portfolio.
U.S. Retail Fund	Sometimes also called a 40-Act Fund after the Investment Company Act of 1940 under which they operate, U.S. Retail Funds are a class of mutual fund INVESTMENT VEHICLE's which can be marketed and sold to the general public in the United States. They operate under different requirements and regulations than PRIVATE FUNDS and COMMINGLED TRUSTs.

### **References**

1. Online BA Wiki: [Glossary](#)
2. Online Article: [Project Glossary: The Right Way to Create One](#) by Bob Zimmerman
3. Video: [Creating a Glossary](#) by Chris Mattia

# In-Out List

Friday, January 28, 2022 1:37 PM

## Definition

The IN-Out List BA technique facilitates discussion among stakeholders on exactly what is in or out of scope. Defining the scope fosters discussion and consensus among stakeholders. What is in scope will be affected parties, users and systems. What is out of scope will remain untouched/off limits during the project.

## Usage

- Formulating the BRD. This information can be added to the Scope section of the BRD document.
- Determining what is in scope, and out of scope for a project.

## How to Create an In-Out List

- ☐ **Step 1:** Create a 3 column table in excel or by another method. Label the columns as follows:

Topic	In	Out

- ☐ **Step 2:** Enter the list of topics that need discussion.

- ☐ **Step 3:** Discuss among the stakeholder group whether the topic is in scope or not. Once a consensus is achieved, mark the appropriate result. Go through each row/topic and mark whether the topic is in the scope of the project, or if it is out of scope.

- ☐ **Step 4:** Fill in the BRD with the Scope information found. The In/Out List should be available during any project team / stakeholder / or sponsor meetings and can be updated on the fly as new issues are found or if old decisions need to be revisited.

## End Result

Topic	In	Out
Order System	In	
Invoice System	In	
Payment System	In	
Payment Processing Hardware		Out
Analysis of Current Systems	In	
Accounting System		Out
Delivery Management System		Out

## References

1. Book - Writing Effective Use Cases. By Alistair Cockburn. Addison-Wesley. 2000. Pgs. 35-36
2. Article Online: [Use Cases: Defining Scope](#). by Alistair Cockburn. InformIT. March 22, 2002

# Interviews

Thursday, January 27, 2022 4:15 PM

## Definition

Requirements elicitation is about discovering the requirements and needs of stakeholders. Interviews with stakeholders help us uncover their needs and understand the project from their point of view by revealing information for a successful solution. Relationship building, asking high impact, and powerful probing questions are important when interviewing. We want to capture and organize the information from the interviews into a BRD.

When new products, services, processes, or systems are being created or enhanced, it's common to use interviews to understand the current challenges and the ideal future state of a solution. Gather details in interviews. Strategically plan and conduct an interview with the intended parties. Follow up with a meeting.

## Diagram



## Usage



- Stakeholder interviews are commonly performed by business analysts, project managers, and project owners.
- Interviews with stakeholders elicit requirements. Business requirement documents (BRDs) contractually outline the business needs and ideal future state of a stakeholder. Interviews are used to understand and discover various detailed aspects of the current or future state.
- Gather information about a product, process, or system.
- Build relationships with stakeholders and gaining their trust.
- Understand stakeholder ideas and attitudes about a project or solution.
- Increase stakeholder involvement and support in a project.

## How to Conduct an Interview with a Stakeholder

Note: Interviews can be structured formally or informally, based on your existing relationship with the interviewee.

- ☐ **Step 1:** Prepare for the interview by planning out a list of high level questions. It is critical these questions get at the underlying need driving the desire for a new project and understand the context of why it is needed. Often, the solution given by the leader is only part of the technical solution. Therefore, ask deeper, probing questions. ***It is also common to interview multiple people/roles for a given project.***

### **Interview Preparation:**

- Defining the purpose of the interview
- Selecting the right person(s) to interview
- Researching the interviewees
- Planning the questions
- Setting up the logistics

- ☐ **Step 2:** Who to interview? Select the correct person to interview and the relevant parties. Try to avoid large group meetings.

1. Interview a **project sponsor** to understand the problem or opportunity from a leadership perspective. Understanding the context and the perspective of the sponsor can help us understand how the project aligns to higher level goals, objective, and strategies of the organization.



2. Interview the **leaders and managers** of the areas impacted for gaining insight to how a problem impacts their area of responsibility from an operations, product, systems, and people perspective. How do managerial concerns and ideas fit into the sponsor's vision?

## Managers or Leaders

- Explains impacts to their area of operations



3. Interview the **users of the solution** to find new areas for improvement and to provide clarification of your own understanding. Since they are the ones using the solution, we need to ensure that we develop meets their standards.

## Users of the Solution

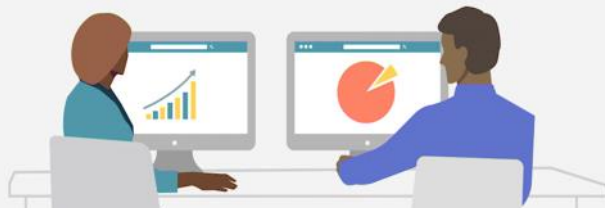
- Offer key insight
- Share frustrations
- Contribute ideas on improvements



4. Interviewing the **subject matter experts (SMEs)** of the system, process or product, is useful for gaining deeper, detailed knowledge about the solution. SMEs can connect information from users and leaders that may not otherwise be easily connected.

## Subject Matter Experts

- Knowledgeable about the solution



- ☐ **Step 3:** Schedule the meeting. Find open availability for everyone. Send out an email with the list of questions in advance to the meeting.
- ☐ **Step 4:** Conduct the interview. Ask the interviewee your prepared list of questions. If further questions arise, dig in to reveal as much underlying information as possible.

### Conducting the Interview:

- Building rapport

- Expectations
- Questions
- Active Listening
- Notes and findings

☐ **Step 5:** Follow up with the interviewee. Provide a brief summary and thanks through an email.

**Follow up:**

- Thanks
- Confirming needs
- Following up
- Note review
- Action items

**Tips:** Focus on dialog. Express feelings and opinions in private. Interviewee may withhold critical information.

**References**

1. Video: [Requirements Elicitation for Business Analysts: Interviews](#) by Angela Wick

# Observation

Friday, January 28, 2022 1:37 PM

## **Definition**

Observation is used to elicit information by viewing and understanding activities and their context. It is used as a basis for identifying needs and opportunities, understanding a business process, setting performance standards, evaluating solution performance, or supporting training and development.

The Observation method is the process of recording behavior patterns of people, objects, and occurrences without questioning or communicating with them. The resulting observational data usually consists of detailed information about particular group or situation. It allows the researcher to study people and situations in their natural setting without their behavior being influenced by the presence of the researcher. Observation allows you to watch someone at work in their normal environment and see what they actually do, not what they can consciously think to tell you.

Observation can also be referred to as Job Shadowing and Following people around.

## **Types of Observation**

### **Active**

With the active observation method, the BA asks questions of the person they are observing if the person does something the BA does not understand. Or if the BA is trying to understand why a person did something in a particular way. Even if by asking the question, the BA is breaking the participants work flow or otherwise causing a disruption of their normal work patterns.

### **Apprenticing**

Observations that come from the BA becoming an apprentice on the job and asking experienced users to train them.

### **Passive**

With the passive approach, the BA simply observes and takes notes. They do not ask questions while the participants is conducting the work being observed and generally try to be as unobtrusive as possible. Only after the BA has viewed the entire work process one or more times will they ask questions of the person being observed to make sure they understand the process or why certain actions were taken.

### **Protocol Analysis**

In protocol analysis the person being observed essentially provides a running monologue of what they are doing and why they are doing it as they go about their job. This is also in the BABOK guide, but not given a specific name.

### **STROBE**

With the Structured Observation of the Business Environment (STROBE) observation technique engaging in a form of observation in order to gather specific metrics such as how many calls a worker takes, how many calls are converted to orders, how often specific applications or screens are used, how often a worker has to turn to a specific resource to find information, and other similar specific metrics. The BA is not trying to document a business process.

## **Usage**

- Eliciting requirements for the BRD
- Observation is invaluable if you need to understand the way a current business process functions
- When looking to change or improve a current business process
- When trying to learn specifically how users actually engage with a piece of software or other job aid

## **How to Observe**

☐ **Step 1:** Prepare. Determine who/what you are going to observe. You generally want to observe more than one person in order to see a wider range of activities. Think about:

- ☐ Ensuring you observe all of the different roles involved with the domain you are investigating.
- ☐ Observe people with different skill levels and job experience. The new hire may do things differently, and have different needs, than the experienced worker.
- ☐ Determine when you are going to observe the participants. Different times of day, week, month, quarter, and



even year can all involve different work in some cases. So try to identify any particularities of the time periods you have available, especially if different stakeholders work may change on varying schedules.

- Determine how much time you have to dedicate to observation and allocate it as best you can to ensure the widest array of information, but the greatest depth of coverage possible.
- Review any existing documentation on the processes you will be observing ahead of time. Both to familiarize yourself with what in theory should be happening and to help put what you will be observing in context. This helps improve your understanding of what you are observing, and reduces the amount of needless questions (from the perspective of the person being observed) you may ask.
- Prepare questions ahead of time to help elicit information you know you are trying to gather.
- If you are going to try and gather specific statistical data (for example; the number of calls received, the number of orders entered, etc.), prepare a worksheet that will let you easily gather this information with the minimal amount of effort or disturbance.

□ **Step 2:** Observe. First, conduct the observation session(s) you have planned while keeping in mind the following:

- Be sure to inform the person you are observing that their work is not being questioned in any way, but rather that what is learned will go into trying to improve their work processes.
- If it's true, you may want to tell them that you are observing them because of how well they do their job and that they were suggested as expert who could provide demonstrate the widest range of work and expertise. This not only makes them feel more comfortable with the observation process, but encourages them to share more information.
- Inform them that the observation can be stopped at any time if it is interfering with their work.

Second, if the environment and work allows, consider recording the observation session. This works especially well for Protocol Analysis.

- In the case of software usage, don't forget that some software (Snagit at least) will capture the users screen and let them dictate into a headset (for at least a period of time).
- Having a recording that you can refer back to lets you focus less on taking notes, and more on what is actually being done and why.

□ **Step 3:** Record findings.

- Analyze your notes, looking for gaps or questions that were not answered
- Follow-up with the persons you observed to both summarize what you observed and to fill in any gaps.
- Assemble the analyzed information of the process and consider validating it with not just the workers you observed but others involved in the same process. They may identify missing information that you were not able to observe.

## **References**

1. Online Article: [Collecting Data Through Observation](#) by Barbara Kawulich
2. Business Analysis Techniques: 72 Essential Tools for Success; by James Cadle, Debra Paul, and Paul Turner. 2010. ISBN: 978-1-906124-23-6
3. Online Blog: Business Analyst Learnings. Article: [Using the Observation Technique for Requirements Elicitation](#) by Stephanie Famuyide

# Sampling

Monday, January 31, 2022 9:05 AM

## Definition

Sampling examines a subset of units that are representative of the entire population. This involves only picking some units to sample, rather than 100% of them. Sampling is focused on deriving quantifiable data such as how long someone takes to do something, and how much of their time is spent doing it. The BA chooses a representative sample of users from which to gather data and assumes that the data gathered from those users will be similar to that of other users.

A business analyst can do sampling of people or the outputs of business processes to find out what variations in the output are most common (variations can include both differences in quality and differences in content); or to gather data about the sources or recipients of the business output.

## Vocabulary

- ✓ A **population** is the total group of people about who you are researching and about which you want to draw conclusions.
- ✓ Strata (singular: stratum) are sub-groups within a population or sample frame. These can be random groups, but often are natural groupings, such as men and women or age-range groups. Stratification helps reduce error.
- ✓ Standard deviation of the population is often shown with  $\sigma$  (**sigma**).
- ✓ A **unit** is the thing being studied. Usually in social research this is people. There may also be additional selection criteria used to choose the units to study, such as 'people who have been police officers for at least five years.'
- ✓ After sampling you then **generalize** in order to make conclusions about the rest of the population.
- ✓ **Validity** is about truth and accuracy. A valid sample is representative of the population and will allow you to generalize to valid conclusions.
- ✓ A sample that does not truly represent the population, and hence is not valid, can be a result of **bias**: a distortion of results.
- ✓ A **systematic error** is one caused by human error during the design or implementation of the experiment.
- ✓ The **standard error** for the **sample distribution** and measures the variation across different samples. It is based on the **standard deviation** of the sample and the gap between this and the standard deviation of the population. - An estimate calculation for a single sample is:

$$S_m = S_x / \sqrt{N}$$

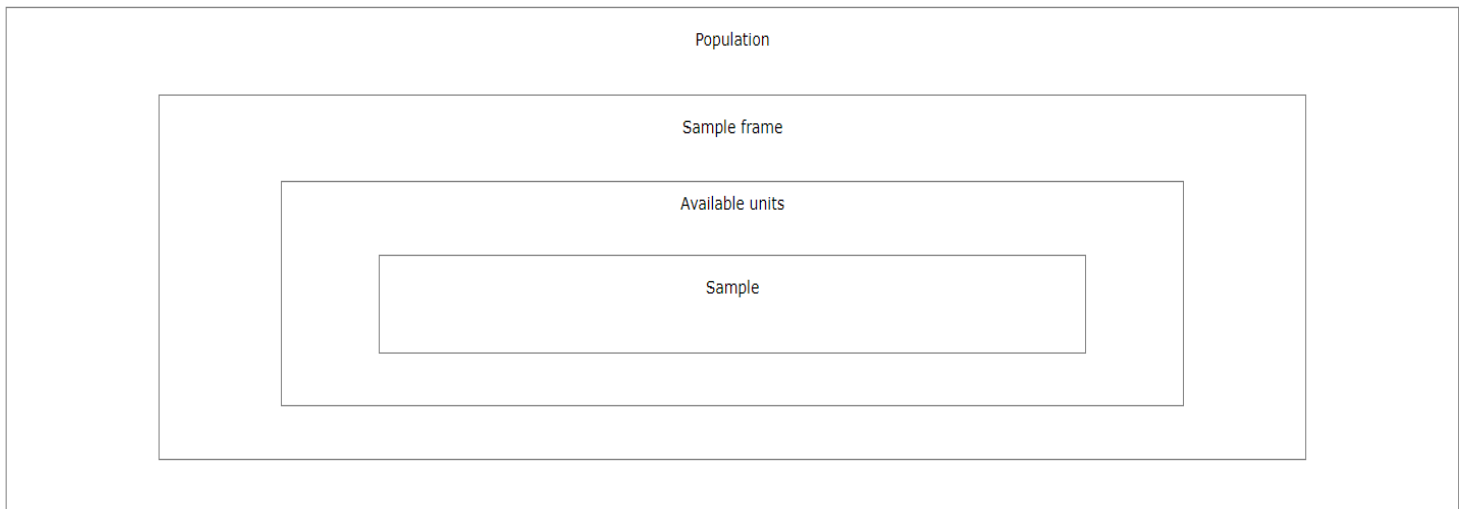
Where:

$S_m$  is the standard deviation of the sample

$N$  is the sample size

- ✓ **Oversampling** occurs when you study the same person twice. For example, when selecting people by their telephone number, if someone had two phone numbers, then you could end up calling them twice. This can cause bias.

## Diagram



### Types/Techniques

These kinds of sampling happen at big and small companies that get audited. The BA can conduct Sampling, of an audit, by testing samples to ensure a company is

- ✓ **Random Sampling** selects units so that each unit has an equal chance of being selected. This might involve using statistics or a computer program.
- ✓ **Systematic Sampling** selects units based on a system that picks every "X" unit in the population. This could involve selecting every third, fifth, tenth, or any kind of randomized sort of number after the start of the population.
- ✓ **Haphazard Sampling** selects units with no consideration to the unit's characteristics: "Let's just sample this one there."
- ✓ **Block Sampling** selects units in contiguous groups or blocks.
- ✓ **Purposive Sampling** selects units based on a certain size threshold. Checking for something with a purpose. For example, take a sample of the biggest tanks for an oil company.

### Usage

- When the population is large or generally inaccessible, then the approach used is to measure a subset or sample.
- When conducting research, it is often difficult or impractical to talk to every possible person of interest, though you may want to draw conclusions about this population as a whole.
- Sampling is used in auditing. It is usually required and scoped by the person in charge of auditing.
- Gathering time values of work performed to determine where process automation or process improvement efforts would have the greatest impact.
- Gathering time values of work performed as inputs to Cost Benefit Analysis.
- Assessing business assumptions or knowledge gaps.
- For scoping and stakeholder identification efforts (to help determine both impacted business processes and business units/clients).

### References

1. Online Article: [Sampling as a User Behavior Analytics Tool](#)
2. [Linkedin Learning Video: Sampling](#) by Jason Schenker
3. Online Blog Post: [Sampling Terminology](#) by Changing Minds
4. Online Article: [Sampling](#) by Changing Minds

5. Online BA wiki: [Sampling](#)

# Stakeholder Communications Matrix

Monday, January 31, 2022 9:06 AM

## Definition

The Stakeholder Communications Matrix is intended to define and document the business analyst's communication plan for the business analysis work they are about to undertake.

A Stakeholder Communication Matrix helps you to outline and set expectations for the communication points that will take place during project processes and milestones. A communication matrix ensures that everyone who needs to be updated through a project will be.

- ✓ **Stakeholders** are those people who play a part in the success of the project or company. They include external clients as well as employees and shareholders. A stakeholder's name should be included in the communications matrix if they hold responsibility for any aspect of the project, if they have requirements that shape the project, or if they are affected by any step or milestone.

Having an effective stakeholder communication matrix ensures that the relevant stakeholders are informed throughout a project, and that there are lines of communication for them to make clear their requirements.

A Stakeholder Communications Matrix for a business analysis effort will focus on communications such as:

- Updates on the business analysis work
- Specifying attendee's for:
  - Status update meetings,
  - Planning meetings,
  - Elicitation sessions,
  - Review sessions of requirements, feasibility studies, solution assessments, etc.
- Communicating the results of the activities above to participants and non-participants for their review
- How all of the communications above will take place
- Who the communications above will go to

## Usage

- Citing the stakeholders in the BRD discovery.
- Stakeholder communication matrixes help avoid common derailing project interruptions, such as when a non-identified stakeholder enters a project halfway through with new requirements.
- Quicker and easier decision making. A good Stakeholder Communication Matrix will improve communication between those working on the project whilst reducing resources and making decision-making easier.
- Improve communication during the project. A stakeholder communication matrix clearly outlines all expected touch points throughout a project. This makes it obvious who should be speaking to who, when and why. When all stakeholders are on the same page about what will be communicated and how often, your project will run into much less miscommunication issues.
- Resource reduction. When it is clear who is responsible for which communication milestone, it makes it much easier to address issues as they pop up. This can save time and resources by avoiding doubling up on communication efforts.
- By ensuring that you have not only identified which stakeholders will participate in different communications tasks and BA effort, the BA ensures that stakeholders are receiving the information they need or want and that stakeholders have the opportunity to provide additional information. A solid communication plan that is both effective and agreed to by the stakeholders is a key factor in ensuring a successful result for the analysis effort.

## How to craft a Stakeholder Communications Matrix

The Matrix usually takes the form of a table with stakeholders along the left horizontal side, and communications activities and tasks that across the top of the table. Notes and indications fill out the rest of the table indicating what stakeholders will be taking part in different communications activities, and which stakeholders need to include in different communications results.

- ☐ **Step 1:** Identify key stakeholders for the project. Make sure to not just focus on those stakeholders who are directly affected or who need to directly participate.
- ☐ **Step 2:** Create the business analysis plan. You must plan the steps for your business analysis effort before you can plan

your communications and discover who you need to get in contact with.

- ☐ **Step 3:** Create a table for the stakeholder communications matrix (in excel or by hand).

At a minimum, the matrix should include the answers to the following questions:

- ☐ **Who** = What stakeholders will be communicated to. **Those working on the project.**
- ☐ **What** = What will be communicated to the stakeholders. Consider the content, level of detail, and formality level. **Identify the specific information that will fulfil and inform your stakeholders.**
- ☐ **When** = How often will the communication occur, or on what date(s)? **Define when you will communicate with each stakeholder.**
- ☐ **How** = What form will the communication take? Email? Phone Call? Face to face meeting? Virtual meeting? Document? **How you will communicate with them and in what format.**

Also consider,

- ☐ The type of business analysis effort being undertaken and what the appropriate communications would be
- ☐ Stakeholder location / time zone
- ☐ Stakeholder preferred communication method
- ☐ What is the best way to communicate the relevant information
- ☐ How frequently should specific communications activities take place?
- ☐ Cultural impact on the choice of communication methods and formality
- ☐ What are the time and resource constraints that may impact communications

- ☐ **Step 4:** Follow the plan throughout the project. Reach out to the necessary parties when running into an error.

- ☐ **Step 5:** Make changes as necessary. As the business analysis effort progresses, it may be necessary to modify the communications plan. Have new stakeholders been added? Has an existing stakeholder had to be replaced? Did planned dates for communication activities change? All of these are examples of when the plan documented in a stakeholder communications matrix may need to be updated.

### **End Result**

First and Last Name	Email Phone Number	Project Role
Chuck Lietz	<a href="mailto:charleslietz@lithia.com">charleslietz@lithia.com</a> (541) 841-7132	Project Sponsor
Kyle Stutzman	<a href="mailto:kstutzman@drivewayfinancecorp.com">kstutzman@drivewayfinancecorp.com</a> (541) 841-7061	DFC Primary Stakeholder
Cathy Qui	<a href="mailto:cathyqui@drivewayfinancecorp.com">cathyqui@drivewayfinancecorp.com</a> (541) 930-7061	Director of DFC Data Science
Lindsay Papa	<a href="mailto:lindsaypapa@drivewayfinancecorp.com">lindsaypapa@drivewayfinancecorp.com</a> (971) 501-1803	Stakeholder, DFC Project Manager
Tony Hess	<a href="mailto:ahess@lithia.com">ahess@lithia.com</a> (541) 774-7638	Stakeholder, Lithia Associate Data Engineering Manager
Devin Bunch	<a href="mailto:devinbunch@lithia.com">devinbunch@lithia.com</a> (541) 776-6401	Lithia Business Analyst
Nick Johnson	<a href="mailto:nickjohnson@lithia.com">nickjohnson@lithia.com</a> (855) 723-2669	DFC Business Analyst

### **References**

1. Online template: [The stakeholder communications matrix](#)
2. Online Article: [Why Your Project Needs a Stakeholder Communication Matrix](#)
3. Investopedia: [Stakeholder](#) by Jason Fernando
4. Online BA wiki: [Stakeholder Communications Matrix](#)
5. LinkedIn Learning Video: [Stakeholder Communication Planning](#) by Dr. Richard Chua

# Stakeholder Role Matrix

Monday, January 31, 2022 9:08 AM

## Definition

A Stakeholder Role Matrix is a table matrix that lists all of the stakeholder roles needed for a project, and the associated characteristics, skills, or knowledge, that role is expected to contribute. These are roles that the project team believes a stakeholder should fill before beginning work on a project.

## Vocabulary

- ✓ **Stakeholder Role Name:** This is the name the stakeholder role will be referred to by.
- ✓ **Expected Stakeholder Role Knowledge:** This is the specific knowledge and expertise you expect the stakeholder to bring to the project.
- ✓ **Stakeholder Role Responsibilities:** These are the specific responsibilities you expect the stakeholder role to undertake.
- ✓ **Decision Maker:** This is a simple Yes / No flag to indicate if you expect the stakeholder to be the key decision-maker for their area of knowledge? This is usually part of the Responsibilities column, but I like to add a separate column with the information as well so that it is easy to see just how many decision-makers I am envisioning on a project.

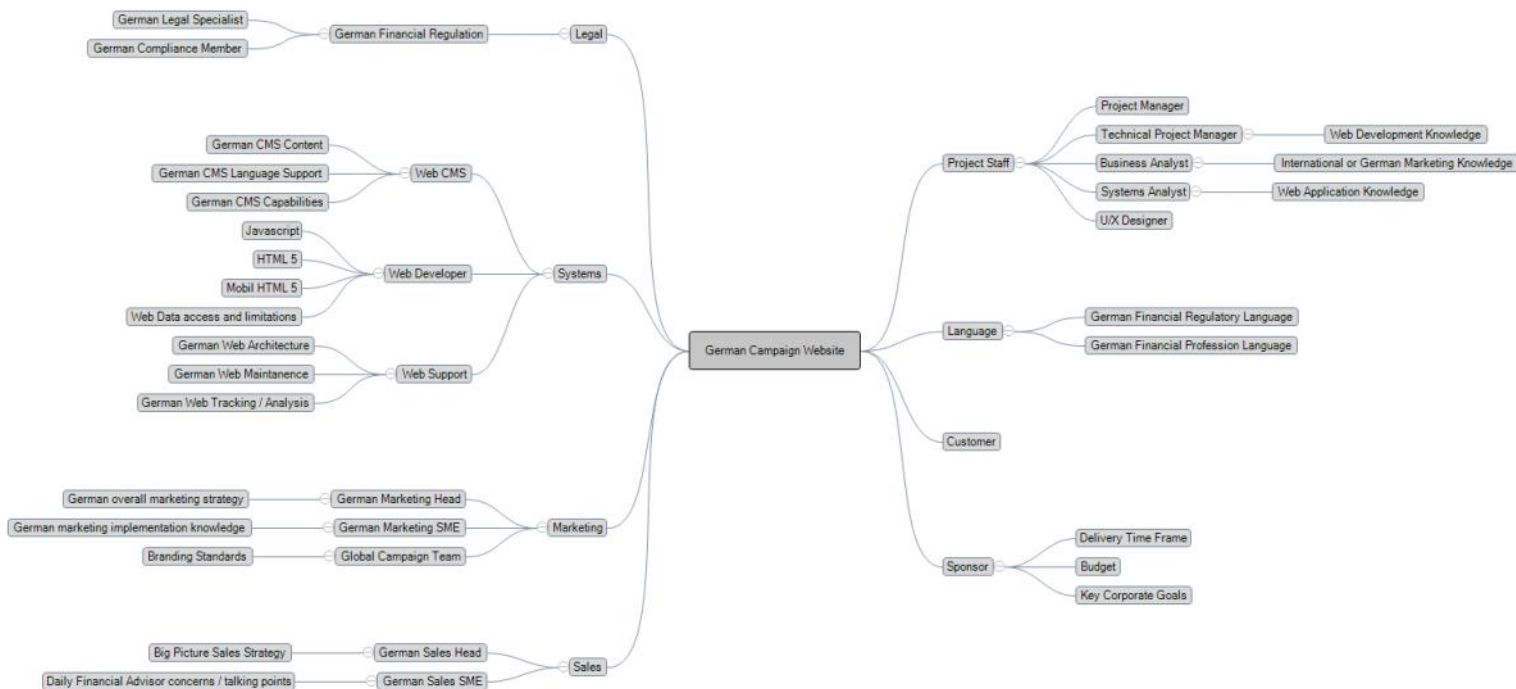
## Usage

- Understand stakeholder goals, who they are, and what they do. The role of the client approves the budget, provides details on tasks to be done, and approves deliverables.
- Enables the project team to think of the projects stakeholder needs more objectively. This enables the project team to think of the project stakeholder needs as separate from the project stakeholders that are readily available and visible.

## How to craft a Stakeholder Role Matrix

- **Step 1:** Conduct a brain-storming session with the whole project team. This can be done with a mind map of the stakeholder groups/types that will possibly need to be included in a project.

Example:



- **Step 2:** After the initial brain-storming session to create the mind-map, create a table with columns labelled as below.

Stakeholder Role Name	Expected Stakeholder Role Knowledge	Stakeholder Role Responsibilities	Decision Maker?

- ☐ **Step 3:** Fill in the Matrix with roles and stakeholder attributes, and continue discussing each role in order to help determine if there are missing roles, knowledge, or responsibilities. This information is used to ensure that all of the needed stakeholder roles are filled with real people, helping to eliminate the issue of some stakeholders or stakeholder perspectives not being represented.
- ☐ **Step 4:** Evaluating this matrix should be an ongoing process throughout the project, as different project phases or changes in the project structure and goals can lead to changes in the roles.

#### **End Result**

Stakeholder Role Name	Expected Stakeholder Role Knowledge	Stakeholder Role Responsibilities	Decision Maker?
Sponsor	Should have full knowledge of the why the project is being undertaken, what the corporate goals are, what the budget is, and the expected delivery time frame.	Act as key visionary and decision-maker for the project effort.	Yes
Project Manager	Knowledge of project management.	Acts as project manager for the overall project, ensuring project is delivered on time, with full functionality, on budget.	No
Technical Project Manager	Knowledge of systems project management lifecycle.	Supports the Project Manager by overseeing the technical aspects of the project, including systems analysis, development, testing, and deployment. May be responsible for overseeing ongoing system maintenance once deployed.	No
Business Analyst	Knowledge of requirements elicitation, analysis, and documentation. Preferably has strong knowledge of the international marketing domain.	Elicits, analyzes, and documents business and process requirements for the new web site. Supports change management, user testing, and project management efforts.	No
Systems Analyst	Knowledge of web systems, web architecture, systems analysis and specification.	Working with the rest of the project team, designs and proposes specifics of the system design and implementation.	No
U/X Designer	Deep knowledge of web site user experience analysis and design.	Provide U/X expertise in the presentation of all site content to ensure best customer experience in line with firm, legal, and compliance limitations.	No
German Legal Specialist	Knowledge of current German financial regulatory system, especially rules and laws regarding the presentation of marketing content via the web (if any), and marketing rules in general.	Provide guidelines and advice on ensuring new web site and content is in line with German financial marketing regulations. Provide Legal sign-off of final project solution before deployment go live.	Yes
German Compliance Specialist	Knowledge of current firm systems and processes in place to ensure firm stays compliant with German regulatory and legal strictures that impact the firm. Deep knowledge of marketing content compliance measures needed.	Provide advice and guidelines to the project team to ensure new web site content creation, maintenance, and deployment processes meet compliance standards. Provide Compliance sign-off on final project solution and processes before deployment go-live.	Yes
German Regulatory Language Specialist	Deep knowledge of the German language as used in the financial services regulatory and legal frameworks, with the ability to translate that knowledge into English.	Provide language expertise where necessary to ensure project team fully understands German regulatory codes and laws. Reviews new web site legal or regulatory content (caveats, etc.) to ensure language use is appropriate and in line with regulations.	No
German Financial Services Language Specialist	Deep knowledge of the German language as used in the financial services industry, including acronyms, slang, and formal usage. Should have knowledge of both professional and common use of language in these areas.	Provide language expertise where necessary to ensure project team fully understands German financial services industry dialect. Reviews new web site content to ensure it is easily and fully understandable by native German speakers.	No



German Marketing Lead	Knowledge of overall firm marketing strategy for Germany, local marketing initiatives, key marketing concerns, and local-only marketing campaigns.	Provides direction to project team on new web site content that tailors global campaign message to the local market.	Yes
German Marketing SME	Knowledge of German marketing campaign processes, teams, and systems.	Provides advice to project team on how content for new web site can be created and supported by the existing German marketing teams and processes. Or identifies gaps where new capabilities may be needed.	No
German Sales Lead	Knowledge of overall firm sales strategy for Germany, local sales initiatives, local sales processes, and local sales goals.	Provides recommendation to project team on new web site content that tailors the content to match sales talking points, strategies, and makes it easy to incorporate into current sales processes. Provides direction and commitment on how new site content will be included in the sales process, and how that use and effectiveness will be tracked and communicated back to the senior management.	Yes
German Sales SME	Knowledge of German sales processes, teams, and systems.	Provides advice to project team on how content can be referenced in Sales presentations, and tracked in sales systems (CRM system for example).	No
Global Marketing Lead	Knowledge of overall firm global marketing strategy, the specifics of this campaign in particular, and corporate goals for the campaign.	Provides direction to project team on the new campaign content, what content can be localized and which must remain to global campaign standard, and how firm wants campaign effectiveness tracked.	Yes
Branding Standards SME	Knowledge of firm global branding standards, preferred presentation methods, and guidelines.	Provide advice to the project team in order to ensure new web site meets global branding standards.	No
German Web CMS SME	Knowledge of the current CMS system underlying the current German web site, it's capabilities and limitations.	Provide advice to the project team of current German web site CMS capabilities, architecture, and processes.	No
German Web Tracking & Analysis SME	Knowledge of current German web analytics capabilities.	Provide advice to the project team on the tracking capabilities and possibilities of user interaction with the new web site.	No
German Web Support SME	Knowledge of the current support process, maintenance processes, maintenance schedules, and current web systems architecture of the German web site.	Provide advice to the project team of current German web site capabilities, architecture, and processes.	No
Web Developer SME	Knowledge of Javascript, HTML 5 for desktop web, HTML 5 for mobil web, creation of interactive charts and graphs for the web.	Provide advice to the project team of technical limitations, best approaches, and current web development capabilities.	No

## References

1. LinkedIn Learning Video: [The role of the Stakeholder](#) by Tom Green
2. Online BA wiki: [Stakeholder Role Matrix](#)

# Use Case Diagram

Friday, December 4, 2020 2:28 PM

## Definition

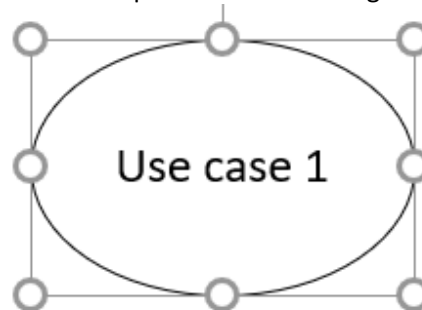
A Use Case Diagram is a visual model that depicts key system functions accessed by those outside the system and the actors that interact with those functions. It is one of the most-widely used UML models and most business analysts should be familiar enough with them to at least use them casually.

As a standard practice, following are the five standard components in a Use Case Diagram:

1. **The system** being modeled. The system is generally represented as **simple rectangle** into which the use cases are placed. The system name is commonly added just inside the top border of the rectangle.
2. **The actors** who interact with the functions of the system being modeled. Actors are always placed outside the system boundary and represent general roles, not specific individuals. For example, an Actor would be “Business Analyst”, but not “Bhumika Kansal”. Actors can also be other systems that interact with the system being modeled. Human actors are generally represented by stick figures while system actors are generally represented by rectangles with the other system name enclosed in double triangle brackets (i.e. <<system name>>). An example of human actor is below:

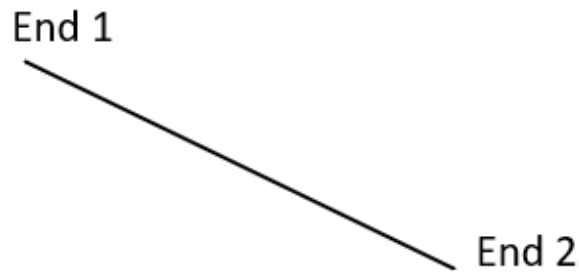


3. **The use cases** of the system. These are high-level functions that will be further documented in the form of the textual use cases, not diagrams. They are what an Actor would like the system to do; and are usually named in the form of a present tense, such as “Update table”, “Hire Employee”, “Order online”, and similar names. Use cases are represented in the diagram by ellipse like this:



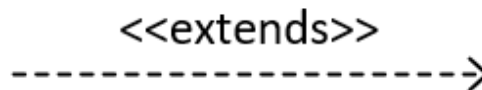
4. **The associations** between actors and use cases. Sometimes also referred to as **Connections**. These associations indicate that the use case will be initiated by the actor(s), or that they participate in the Use Case or benefit from it. There seem to be two different standards for how Associations are represented. In some cases it is by a simple line (not an arrow) between the actor and any use cases they directly interact with; and in other cases it is a solid line arrow leading from the initiating actor to the use case or from the use case to any participating or benefiting actors. An

example of the simple line option is below:

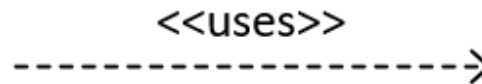


**5. The relationships** between different use cases. There are two different types of relationships, the Extend relationship and the Include relationship.

- An **Extend Relationship** indicates that the functionality of one use case is extended by adding new behaviors or actions, resulting in an expanded version of the original use case. For example, a normal “purchase item” use case might be extended with additional functionality enable a user to purchase an item that is not in stock, to be a “purchase out of stock item”. The “purchase item” use case has additional functions added that are needed if the desired item is out of stock, but for most part remains the same. Extend Relationships are indicated in the diagram by a dotted-line arrow that points from the extension use case pointing at the use that was extended, with the label “<<extend>>” added on the arrow. Like the example below:



- The other type of relationship is the **Include Relationship**, which indicates that one use case completely includes the behaviors and actions of another use case. This is frequently done when the Included use case describes a generic feature that would be needed in several other use cases. For example, the purchase item use case above might Include a update inventory use case that is also included by receive inventory use case. Include relationships are indicated by a dotted-line arrow pointing from the use case that includes the generic use case, to the use case that is being included, with the label “<<include>>” added to the arrow. **Note** that in Visio an Include relationship is called a Uses relationship. Like the example below:



Note: One thing to note about relationships is that Include (or Uses) relationships are mandatory and always uses when the parent use case is called, while Extend relationships are optional and may not be called every time the parent is called.

### Usage

Use Case Diagrams are high-level requirements artifacts, as they do not define requirements in detail. Some of the key uses of them are:

1. Defining the scope (both in-scope and out-of-scope).
2. Stakeholders (the actors who interact with the system).

### 3. Major functional needs of the system to be developed.

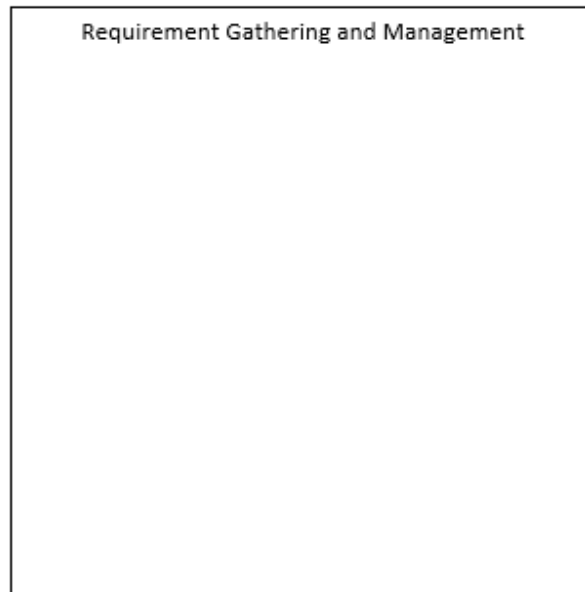
Use Case Diagrams are frequently among the earliest models or diagrams created during requirement analysis and elicitation phase.

These initial Use Case Diagrams are then elaborated, supplemented, and expanded through Use Cases (non-diagram Use Cases), additional models and diagrams (such as UML Activity, Sequence, and Class Diagrams), or in other more-detailed requirements artifacts (detailed functional and non-functional requirements) as more information is learned and as more detailed requirements are defined.

#### **How to create a Use Case Diagram**

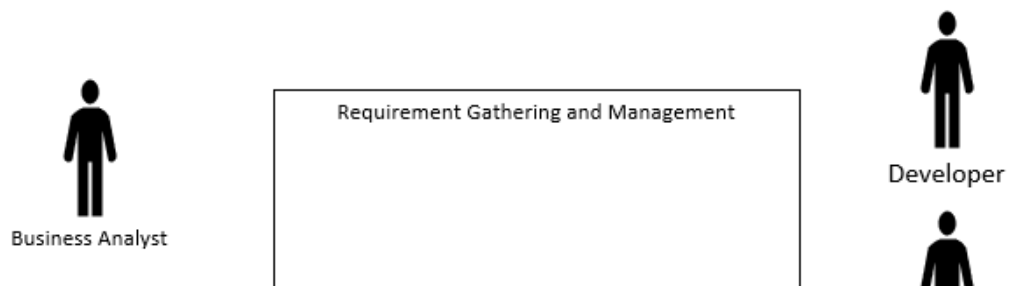
To demonstrate a use case diagram, I will utilize Business analysis process as an example.

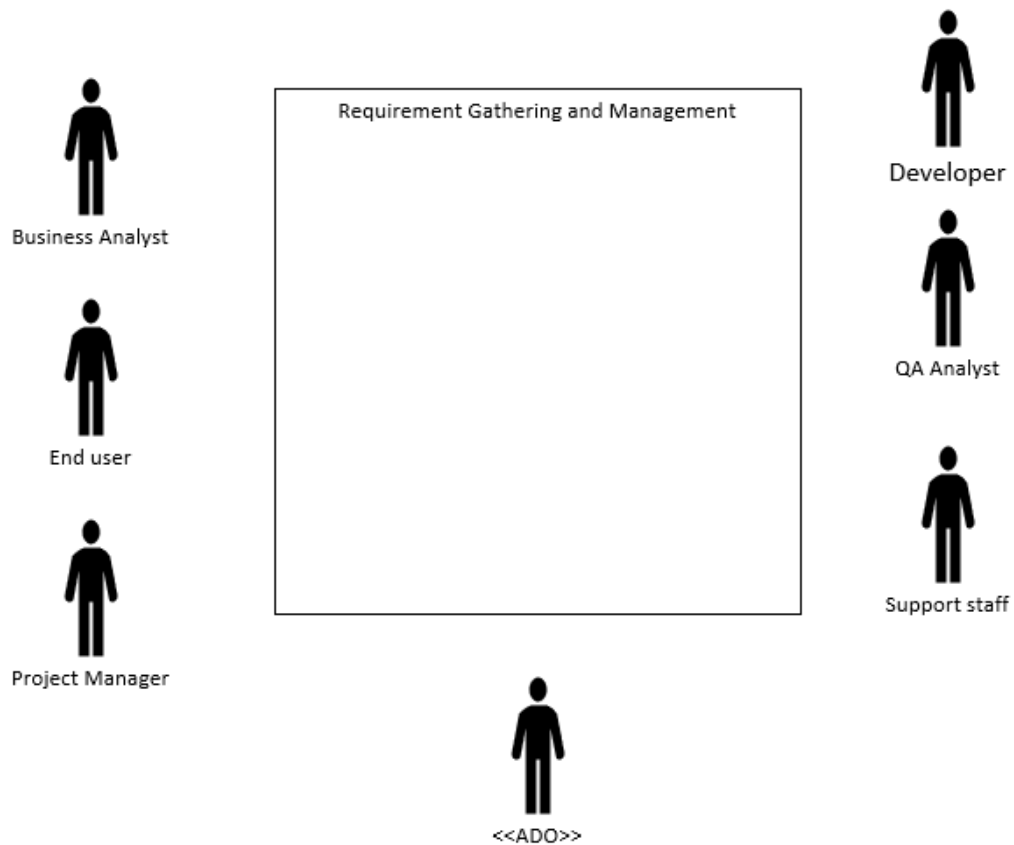
- ☐ **Step 1:** The 'system' in our example would be the 'Requirement gathering and management'



- ☐ **Step 2:** Identify the actors. For the requirement gathering and management, I can define following actors (there can be more of course!)

- i. Business Analyst
- ii. End user
- iii. Project Manager
- iv. Developer
- v. QA Analyst
- vi. Support Staff (if applicable)
- vii. Any tools being used. For example- ADO





- ☐ **Step 3:** Define Use cases. In our example, I will define the tasks each of our actors can perform. Please note, to keep it simple, I am only showing some of the tasks every actor can do. Please do not consider this as a holistic list of all the tasks.

**Business Analyst**

- ☐ Work with Requirements
- ☐ Work with Diagrams
- ☐ Work with Data Dictionaries
- ☐ Defines Requirement traceability

**Project Manager**

- ☐ Specify requirements for releases
- ☐ See Project Reporting
- ☐ Define Project Attributes
- ☐ Comment on requirements

**End user**

- ☐ View Requirements
- ☐ Comment on Requirements
- ☐ See Trace Relationships
- ☐ Approve Requirements

**Quality & Testing Analyst**

- ☐ View Requirements
- ☐ Search for Requirements
- ☐ Comment on Requirements

- ☐ See Changes
- ☐ See Trace Relationships
- ☐ Define QA Tests
- ☐ Conduct QA Tests

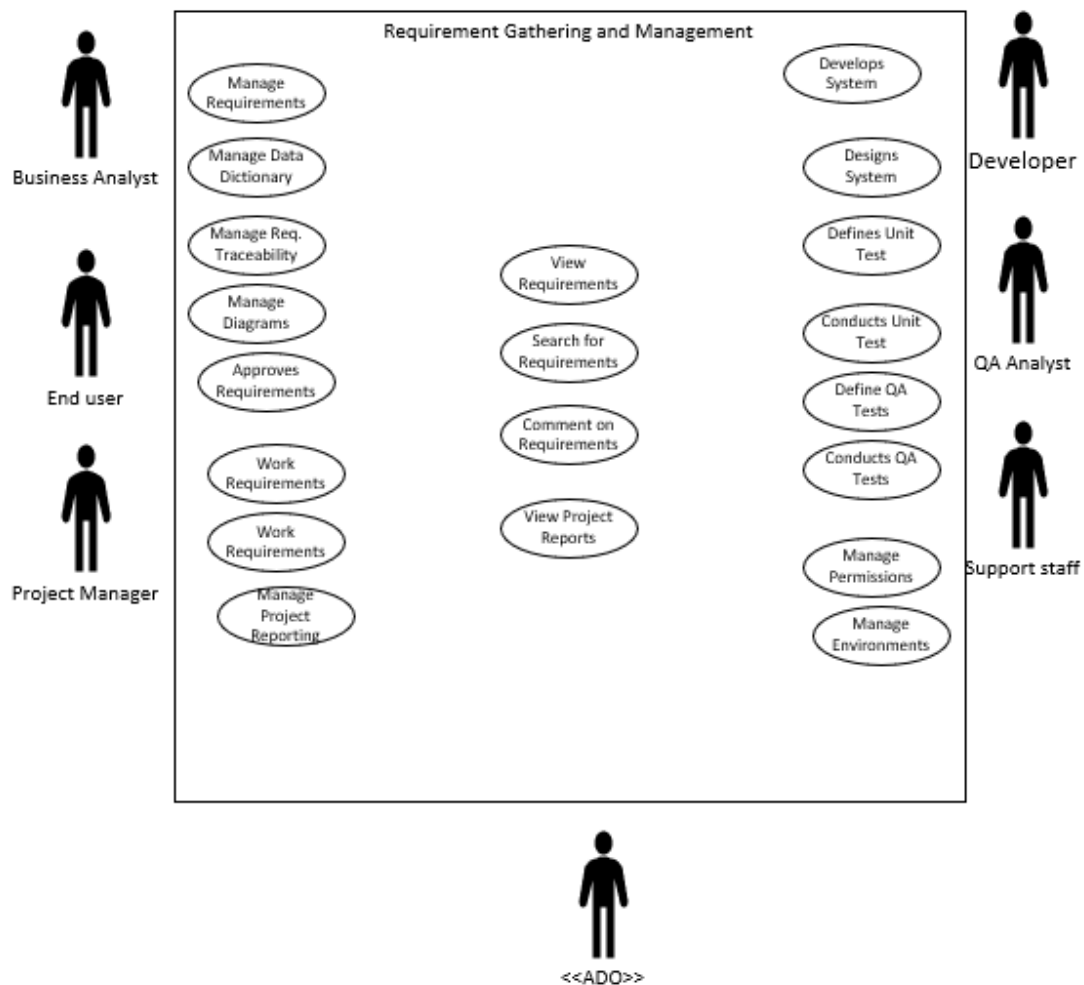
#### Developer

- ☐ View Requirements
- ☐ Search for requirements
- ☐ Comment on Requirements
- ☐ Design the system
- ☐ Build the system
- ☐ Define Unit Test
- ☐ Conduct unit test

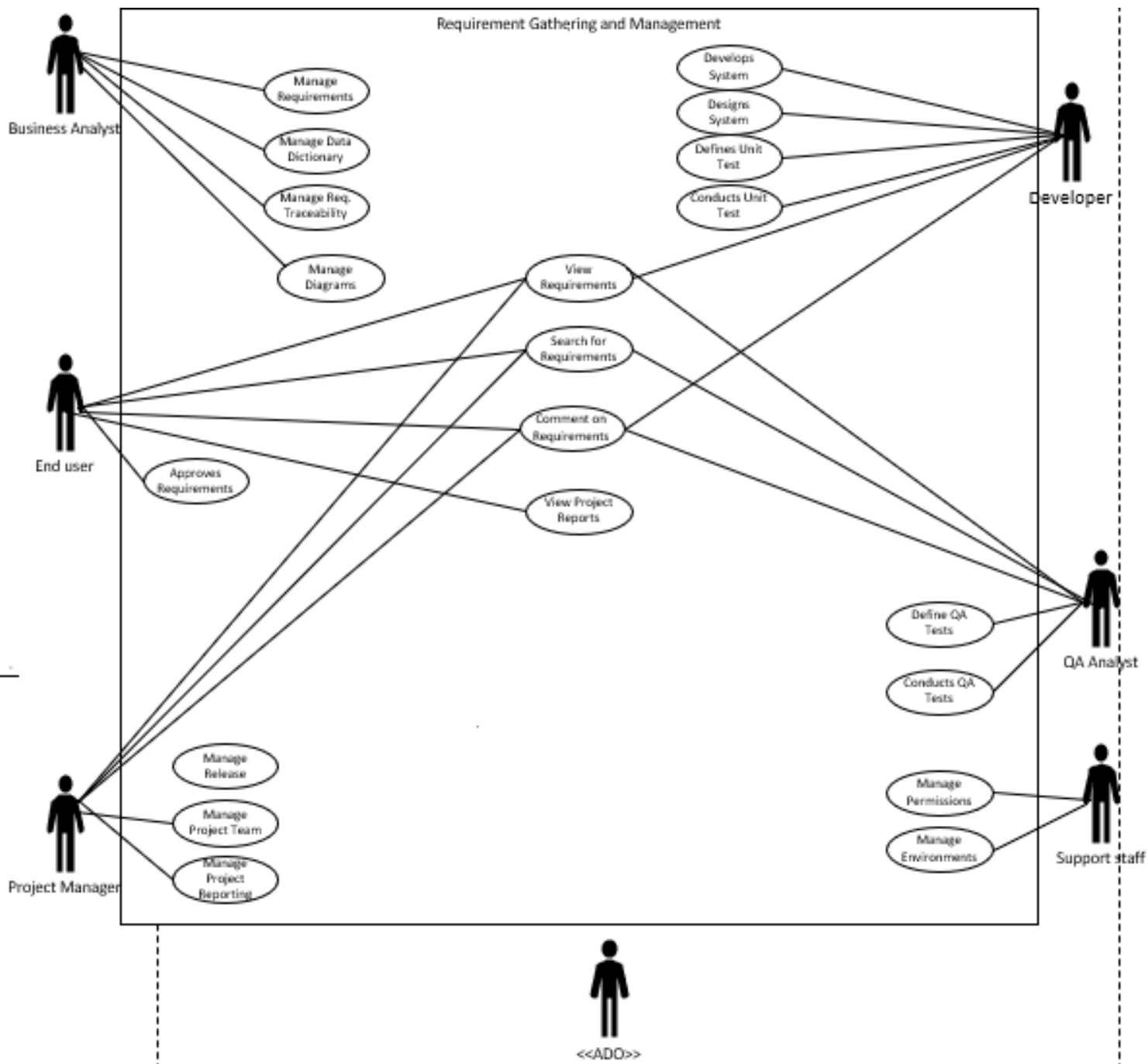
#### System Support

- ☐ Control Access
- ☐ Set up Projects
- ☐ Back-up the System

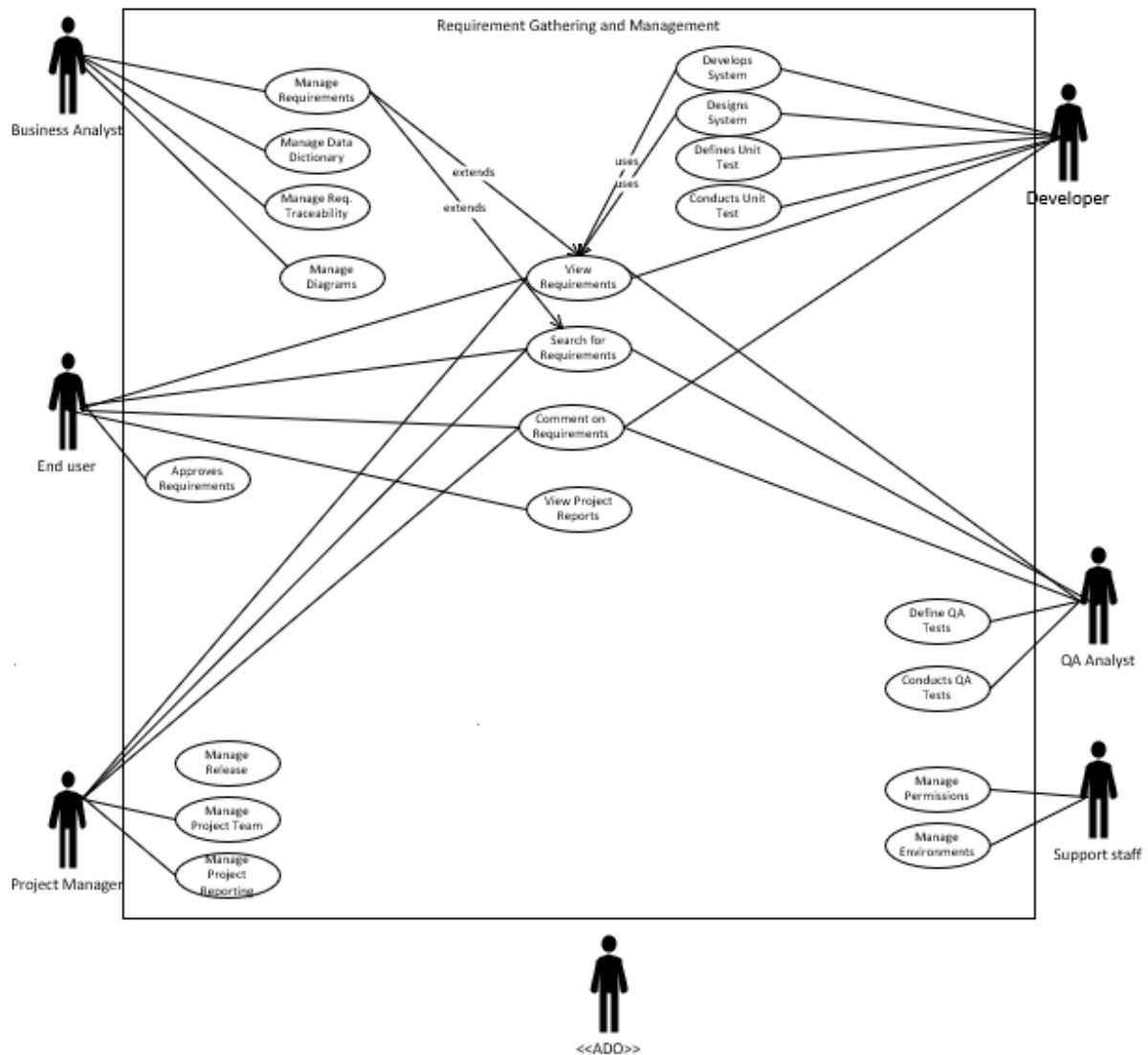
Once actions or use cases are defined, the diagram will look something like this:



☐ **Step 4:** Next I will add connections. The Diagram will look something like this:



□ **Step 5:** Once all the connections are established, you can then start adding relationships. Below are a few relationships I added for my example:



□ **Step 6:** As a final step, review, elaborate and validate the diagram as needed, in collaboration with the project team.

### End Result

At the end of your exercise, the diagram should look something like the above image. Some of the advantages of a Use case diagram are:

- Use Case Diagrams are usually easy for anyone to understand with a minimal amount of explanation.
- Use Case Diagrams are extremely useful in the early phases of a system development effort and lay an excellent foundation for the further definition of requirements into multiple formats in greater levels of detail.

### References:

- Article: UML Use Case Diagrams - Tips and FAQ. By Rus Heywood. From the 1999 Carnegie Mellon University Object-Oriented Analysis and Design course.
- Article: UML Use Case Diagrams – Reference. By Microsoft.
- Article: Use Case Diagrams. By Scott Ambler. AgileModeling.com.



# V-MOST Analysis

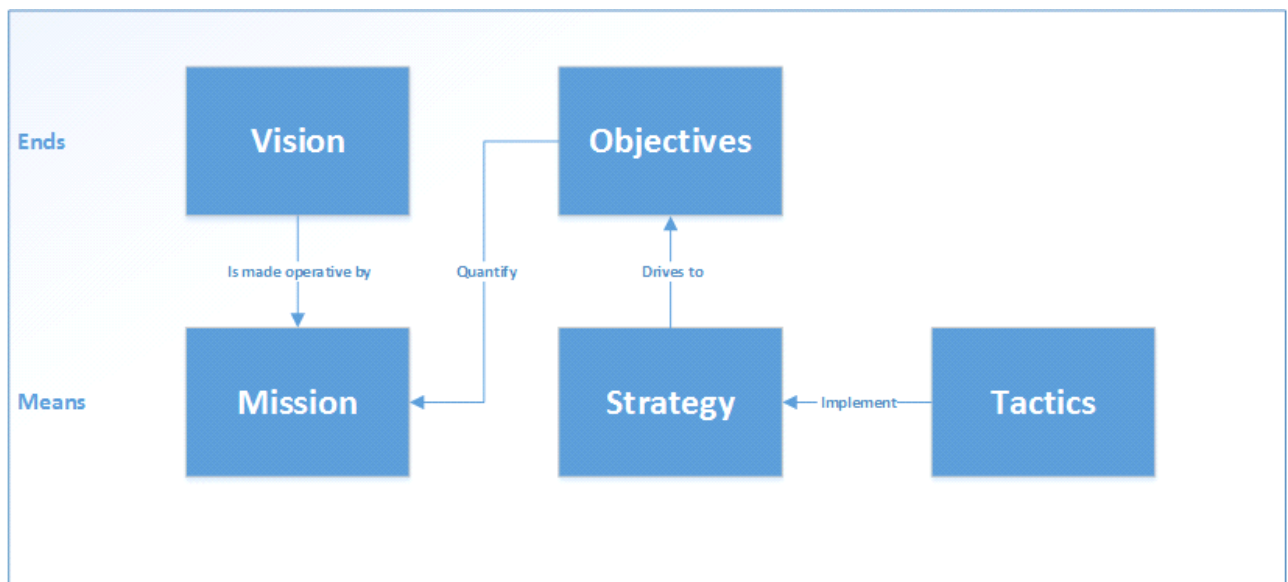
Monday, January 31, 2022 9:06 AM

## Definition

V-MOST Analysis stands for Vision, Mission, Objectives, Strategy, and Tactics Analysis, first proposed by Rakesh Sondhi in 1999. It is a technique for evaluating an organization's overall strategy and supporting activities, and determining whether they are all in alignment. The goal of the VMOST structure is to enable a view of strategy translated into meaningful terms for the benefit of employees, customers, and all other stakeholders by expressing it in the form of visions, missions, objectives and tactics.

VMOST Analysis is a tool to evaluate if an overall strategy and supporting activities are in alignment. It can be used for your current strategy or future plans.

## Diagram



## Vocabulary

- ✓ Sondhi defined a **Vision** as "...empower[ing] individuals through the provision of knowledge or expectations of the future, by focusing on a goal". Identifying, defining, and communicating a vision are at the heart of strategy because the vision provides the inspirational goal that the organization is trying to achieve. This makes the Vision the key driver of the VMOST process because every other element should be oriented towards fulfilling the goal espoused by the vision.

- ✓ Sondhi indicates that **Mission** statements empower individuals by providing a force which directs individuals in a particular direction, by focusing on a behavior. A mission statement explains the company's (or department's) reason for existence. It describes the company (or department), what it does and its overall intention. The mission statement supports the vision and serves to communicate purpose and direction to employees, customers, vendors and other stakeholders. The mission can change to reflect a company's (or department's) priorities and methods to accomplish its vision.

### Usage

- The V-MOST structure and analysis process can be applied to a program or project effort itself in order to help define the project mission(s) and objective(s), as well as the strategy and tactics the project will undertake to achieve them, and ensuring that they are all aligned.
- V-MOST is used to analyze the current strategy of an organization or organizational unit.
- This BA technique can be used for defining and analyzing current and possible future strategies of organizations, organizational units, projects, programs, or even individuals (both in an organizational and personal context).
- Communicating a strategy
- Structuring a strategic plan
- Getting feedback on strategic plans
- Checking the alignment of business units
- Defining new strategies
- Testing out new strategies
- For evaluating sub-organizational units such as departments, teams, and even individuals
- For personal growth and career planning

### How to Conduct V-MOST Analysis

#### ☐ **Step 1:** Prepare and Research

The first step of any V-MOST Analysis process is to determine the scope of analysis that will be undertaken. Are you going to analyze the organizations strategy and activities as whole? Are you going to just analyze a specific business unit? Or possibly just how a particular project team or even individual contribution to the achievement of the organizations vision.

#### ☐ **Step 2:** Identify/Formulate the Vision

Your Vision is the sentence that describes the future, that inspires and engages your team, and that spearheads why you exist. [Here is a guide to writing Vision Statements.](#)

Sondhi provided the key attributes that any successful organizational vision should have:

- ☐ **Provide a clear view of the future:** The vision needs to be easy to understand and easy for its recipients to see the future being aimed for.
- ☐ **Be shared:** The vision needs to be shared and believed by all of the people in the organization.
- ☐ **Be Motivational:** Visions are the vehicle to motivate and inspire individuals to achieve more than otherwise would be possible.
- ☐ **Be Ambitious:** Visions should be something force you to push yourself that little bit further, without necessarily ever reaching the ultimate goal.
- ☐ **Be both rational and emotional:** Commitment is gained through latching onto the emotions of individuals. Identifying the drivers that will switch the commitment on.
- ☐ **Both engage and frighten:** Fear ensures maximum performance. There is a boundary where fear can have a negative impact on performance. However, fear is also a prerequisite for gaining a competitive edge.

#### ☐ **Step 3:** Analyze the Vision

Ask:

- ☐ To what extent is there a vision?
- ☐ How clear is this vision?
- ☐ Who owns the vision?
- ☐ Is the vision well communicated and shared by key people in the organization?
- ☐ Is the vision emotional and engaging?
- ☐ Is the vision distant, yet achievable?
- ☐ Is the vision ambitious and stretching?
- ☐ Is the vision stated in a future tense?

#### ☐ **Step 4:** Identify/Formulate Mission Statements

After the Vision, the next component of strategy to analyze is the Mission Statements of an organization. An organization can have several mission statements. A Mission Statement explains what you do and how you achieve that Vision. [Here is a guide for writing mission statements.](#)

Sondhi provided several key attributes that a good Mission Statement should have:

- ☐ **Purpose:** The mission statement should indicate the primary justification for the existence of the organization.
- ☐ **Principle Aims:** The mission statement should convey principle aims of the organization stated in terms of market share, profitability, pricing targets, or some other metric.
- ☐ **Identity:** The mission statement may want to convey some inclusion of the organization into some sort of broader identity that it wants to be related to.
- ☐ **Policies:** The mission statement should be based on the philosophy and style of leadership that organization wishes to embody or demonstrate.
- ☐ **Values:** The mission statement should reflect the values of the stakeholders it seeks to address as they relate to the organization.

#### ☐ **Step 5:** Analyze the Mission Statements

Ask:

- ☐ Is there an explicit mission in the organization or is there an implied mission?
- ☐ Is the mission actually a mission or is a goal?
- ☐ Is the mission appropriate and relevant for the vision and the environment?
- ☐ What is the purpose of the mission? Is it for staff motivation or for PR purposes? Is it successful?
- ☐ Does the mission provide a realistic view, from the management's perspective, of the capabilities of the organization?
- ☐ Does the mission express the policies and values of the organization? Do these tie in with the actual values identified in the analysis of the culture? Are the policies valid and relevant to the environment?

#### ☐ **Step 6:** Identify/Formulate Objectives

The Objectives are the large items you wish to achieve. They're big, bold, ambitious and clear. Consider how your Mission will become a reality and work from there. [Here is a guide to identifying Strategic Objectives.](#)

#### ☐ **Step 7:** Analyze the Objectives

Ask:

- ☐ Are the Objectives SMART? Are they:
  - ☐ Specific
  - ☐ Measurable
  - ☐ Achievable
  - ☐ Relevant
  - ☐ Time-bound
- ☐ Do the Objectives help fulfill the mission?

#### ☐ **Step 8:** Identify/Formulate the Strategy

For each objective, there should be one or more strategies identified that act as guides for meeting that objective. Strategies are smaller decisions you're making to support your overall vision.

List the number of strategies/initiatives that have to occur in order to hit your objective and goals. At this point in the process, the strategies/initiatives are still reasonably high level, and you can have multiple strategies/initiatives per objective.

#### ☐ **Step 9:** Analyze the Strategies

Ask:

- ☐ What are the basic elements of the Strategy?
- ☐ How effectively is the strategy being implemented (if analyzing current strategy)?
- ☐ To what extent does the current strategy address the issues that have been identified and prioritized in the current environment?
- ☐ Is the Strategy relevant and appropriate to the objective it is trying to achieve?

#### ☐ **Step 10:** Identify/Formulate the Tactics

Tactics can be smaller projects, or they could be individual tasks. It's important each tactic has someone accountable for

this element in the overall strategy. For each Strategy, there should be several tactics that represent the specific activities the organization will undertake to move the strategy forward and enable the achievement of the Objective.

Tactics relate to the more detailed implementation of each of your strategies/initiatives in the plan. Begin by listing out your strategies and going through each one. Identify what needs to happen to make the strategy a reality, including the details that may have been missed at the higher level.

Tactics may be unique to specific business units, or may apply across the organization. Most importantly, there should be some metric identified to evaluate their effectiveness so that they can be monitored and adjusted as necessary.

☐ **Step 11: Analyze the Tactics**

Ask:

- ☐ How is the Strategy being carried forward on a day-to-day basis?
- ☐ Do the tactics reflect the aims of the strategy?
- ☐ Are the tactics coordinated between different parts of the organization?
- ☐ Are the tactics being monitored for success?

☐ **Step 12: Now, analyze how all five elements(Vision, Mission, Objectives, Strategy, Tactics) are aligned with each other. Should changes be made in the strategy or the elements of strategy based on the results of the analysis? Those changes should address any issues that came out of the VMOST Analysis process.**

- ☐ Are the elements consistent with each other?
- ☐ Do any elements conflict with each other?
- ☐ Are there aspects of the Vision or Mission(s) that are unsupported by Objectives, Strategy, and Tactics?
- ☐ Do the tactics at the bottom all line up towards the Vision?
- ☐ Is any part of the flow broken, or missing?
- ☐ If the Tactics are all complete, will the Strategies be finished?
- ☐ If the Strategies are all finished, will the Objectives all be done?
- ☐ If the Objectives are all done, is the Mission a reality?
- ☐ If the Mission is a reality, does the Vision become true?

If you're happy with the V-MOST Analysis and alignment is done, then you can repeat the process for as many strategic plans as you wish.

## **References**

1. Online Article: [Guide to VMOST](#) Analysis by Lucidity
2. Online BA wiki: [VMOST Analysis](#)