



UNIVERSITATEA DIN
BUCUREȘTI
— VIRTUTE ET SAPIENTIA



Course 2

Introduction in Business Analysis

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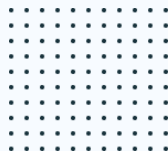
Course 2 Agenda

What is Business Analysis?

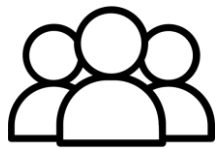
Who is the Business Analyst?

Requirements

Requirements Elicitation



SDLC - WHO DOES WHAT WHEN?



Business Owners
Solution architects
CX/UX Designers

Product Managers

Enterprise or

Operations

PDLC



POC

MVP & MMP

++ Feature releases

++ Feature releases

++ Maintenance releases

SDLC
iteration



- Product Owner
- Project Manager
- Business Analyst
- CTO

- System Architect
- UX/UI designer

- Front-end Developer
- Back-end Developer

- Solutions Architect
- QA Engineer
- Tester
- DevOps

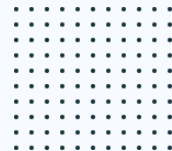
- Data Administrator
- DevOps

- Users
- Testers
- Support managers



What is Business Analysis?

Nota bene! This course focuses on the aspects of business analysis applied in software development, primarily to the delivery horizon, secondary to the initiative horizon.



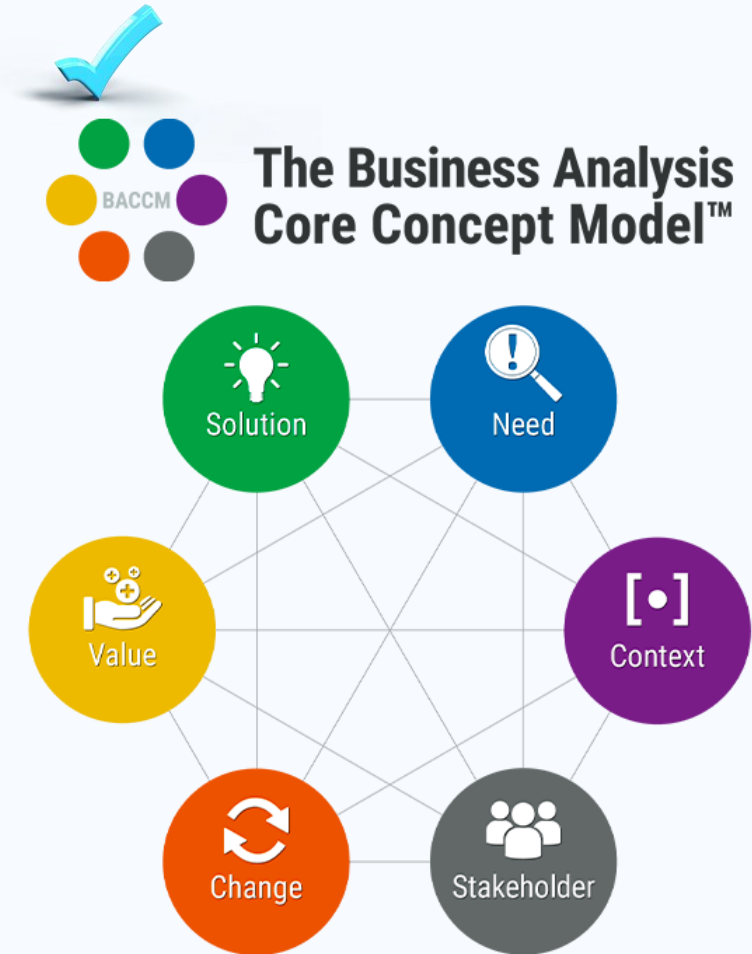


“The practice of enabling **change** in an enterprise
by defining **needs**
and recommending **solutions**
that deliver **value** to stakeholders.”

(International Institute of Business Analysis™ (IIBA®))

“An advisory role which has the responsibility for investigating and analysing business situations, identifying and evaluating options for improving business systems, elaborating and defining requirements, and ensuring the effective implementation and use of information systems in line with the needs of the business.”

(The BCS book Business Analysis, Paul, Cadle and Yeates 2014)



Change: the act of transformation in response to a need.

Need: a problem or opportunity to be addressed.

Solution: A specific way of satisfying one or more needs in a context.

Context: the circumstances that influence or are influenced by and provide an understanding of the change

Stakeholder: A group or individual with a relationship with the change, the need or the solution

Value: the worth, importance or usefulness of something to a stakeholder within a context.

(International Institute of Business Analysis™ (IIBA®))

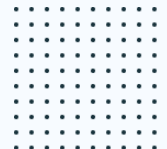


Who is the Business Analyst?

Definition

Roles and Responsibilities

Skills





Who is the Business Analyst?

- the “translator” that bridges the gap between business and IT
- clarify business needs with stakeholders;
- implement the desired change within the context.
- align the needs of business units with the IT capabilities
- facilitate the design of solutions that will maximize the value delivered by an organization to its stakeholders





Analysis at Multiple Horizons and BA practitioners role names

Enterprise Analyst

Management Consultant

Process Analyst

Business Architect

Process Analyst

Business Analyst

Requirements Engineer

Product Manager

Product Owner

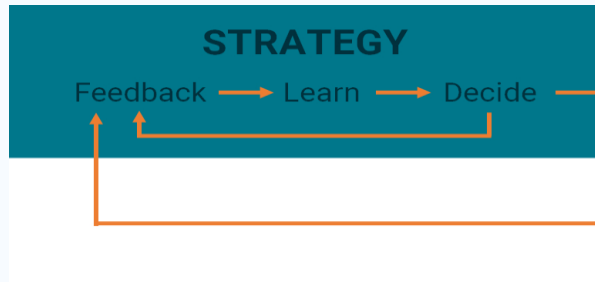
Product Owner

Business Analyst

Systems Analyst

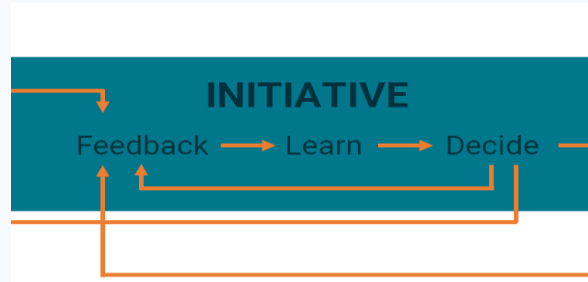
Requirements Engineer

IT Business Analyst



Decisions that impact the entire organization

Define, Align, Inform about Strategy



Decisions that impact a particular goal, initiative, or team.

Define, Deliver and Support Change



Decisions made regarding the delivery of the solution

Support delivery, project, operations



What do IT Business Analysts do in Discovery phase/Initiative horizon (sample activities)

Focuses on Why and What!

- Articulate objectives/goals; state the problem or opportunity
- Perform stakeholders analysis
- Elicit requirements
 - interviews, workshop, market analysis
- High level req analysis and modelling: draw the context diagram, process redesign (UML, Story mapping) functional decomposition, mind maps, epics
- Define constraints, assumptions
- Set scope, prioritize requirements and build roadmap





What do IT Business Analysts do in Implementation phase/Delivery horizon (sample activities)

Focuses on what and how!

- Elicit requirements
 - interviews, workshops, documentation analysis, interface analysis
- Define and model requirements
 - process modelling / state modelling
 - user stories
 - acceptance criteria
 - data modelling
 - wireframes
 - business rules modelling
 - non-functional requirements
- Manage product backlog and ensure transparency of priorities
- Facilitate sessions with the implementation team to design and define the solutions
- Point of contact, support activities





Business Analyst Mindset

Principles of Agile Business Analysis

from Agile Extension to the BABOKv2®Guide

Business Analyst Mindset – the Twelve Principles

by Yulia Kosarenko



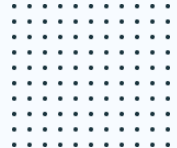


Requirements

Definitions

Requirements classification

Requirements characteristics





What is a Requirement?

Business Analysis Body of Knowledge® (BABOK®) definition

1. A *condition* or *capability* needed by a user to solve a problem or achieve an objective.
2. A *condition* or *capability* that must be met or possessed by a system or system component to satisfy a contract, standard, specification, or other formally imposed document.
3. A *documented representation* of a condition or capability in (1) or (2).



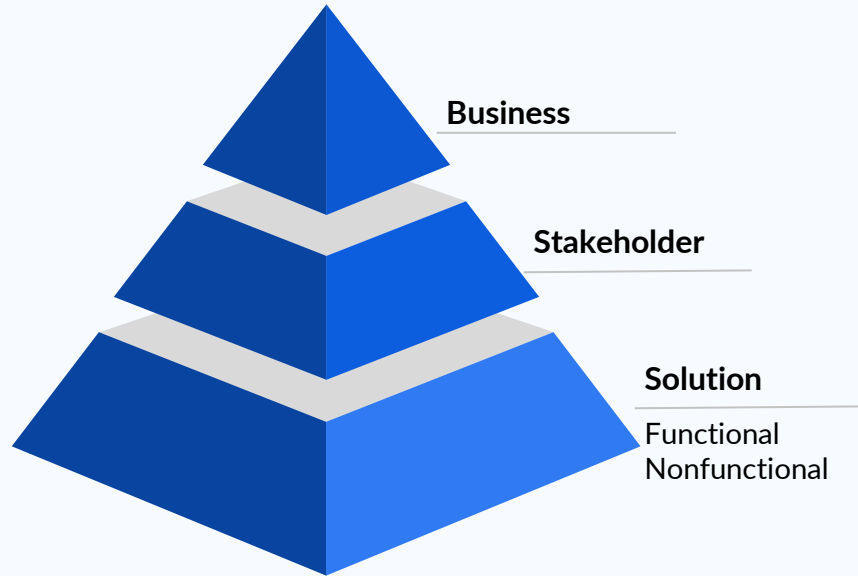
Where do requirements resides?

- Needs
- Wants
- Processes
- Regulatory
- Industry / Market
- Data
- Business rules
- Assumptions
- Constraints and dependencies





Types of Requirements



I. ▶

**Business
requirements**

II. ▶

**Stakeholders
requirements**

III. ▶

**Solution
requirements**

IV. ▶

**Transition
requirements**



Business requirements

- Statement of WHY a project should be undertaken and WHAT the business is trying to achieve, at enterprise level.
- Define the metrics that will be used to measure success.
- Get everyone (sponsor, stakeholders, project team) on the same page.
- Documented as project charter, business case, or in a project vision and scope statement.

Examples:

- ☐ Reduce incorrectly processed orders by 50% by the end of next quarter
- ☐ Increase repeat orders from customers by 10% within 6 months after deployment

Usually answer to the **WHY** questions.





Stakeholders requirements

- Define WHAT each specific group needs from a solution, from their perspective.
- Referred to as user requirements, describe WHAT users do with the system
- Documented using narrative text, use cases, user stories, or event-response tables
- Primary input for solution requirements

Examples:

- ☐ Add new customer account
- ☐ View order history
- ☐ Create new order

Usually answer to the **WHAT** questions.





Solution requirements

Functional Requirements

- Describe the capabilities that a solution must have in terms of the behaviour and information that the solution will manage.
- Are what the developers use to build the system.
- Documented as software requirements specification, users stories and acceptance criteria, various models (data model, process model) and visual forms (diagrams, wireframes).

Examples:

- ☐ Users must be able to register accounts using a valid email address and password.
- ☐ Users should receive order confirmation emails and be able to track the status of their orders in real-time

Usually answer to the **WHAT & HOW** questions.





Solution requirements

Non-Functional Requirements

- Describe conditions under which a solution must remain effective or qualities that a solution must have
- Define system attributes such as Availability, Performance, Security, Compatibility, Usability and so on

Examples:

- ☐ Performance: Account loaded in 1 sec when used by 100 user
- ☐ Security: Account locked after 3 failed attempts
- ☐ Integrity: Monetary amounts accuracy of 2 decimals
- ☐ [Accessible by people who are hard of hearing] All lessons will provide a text alternative to audio content.

Usually answer to the **HOW** questions.





Solution requirements vs Design

Requirements	Design
A requirement is a usable representation of a need.	A design is a usable representation of a solution.
Requirements focus on understanding what kind of value could be delivered when fulfilled.	Design focuses on understanding how value might be realized by a solution if it is built.
<i>Capture six-month sales data across multiple departments in a view</i>	<i>A sketch of a dashboard.</i>
<i>Reduce the amount of time to pick and pack a customer order</i>	<i>Process model</i>
<i>Record and access a medical patient's history</i>	<i>Screen mock-up showing specific data fields</i>



Transition Requirements

- Describe temporary capabilities needed to transition from the current state to the future state
- Data conversion, training requirements, and operational changes
- Once the transition is complete, they are no longer needed.

Examples:

- ☐ The users must be trained to be able to use the system effectively
- ☐ Previous years data must be migrated to the new system to generate comparative report





Quality attributes of requirements

SMART

Specific



Measurable



Achievable



Relevant



Time-bound





SMART



SPECIFIC

Specific requirements are precise, are not opened to interpretation and avoid absolutes (e.g. “all”, “never”, “always”).

Poor Requirement:

- *The system should handle product images.*
- *The platform should allow users to leave reviews.*

Improved Requirement:

- The e-commerce platform must support high-resolution product images in multiple formats (JPEG, PNG, etc.). Images should be automatically resized and optimized for quick loading,
- The e-commerce platform should enable registered users to leave product reviews and ratings on a scale of 1 to 5 stars.



SMART



MEASURABLE

Measurable requirements can be verified as complete, avoid undefined time periods / quantities, and avoid non-fact based measurements such as “best” or “optimal”.

Poor Requirement: *The application shall function quickly for end users.*

- How quickly (seconds, minutes, hours)?
- How many users?
- What features?

Improved Requirement: *“The application shall have response time of 4.00 seconds or less for any feature, when used by 1000 users in the same time.*



SMART



ATTAINABLE / ACHIEVABLE

Attainable requirements can be achieved given the existing environment, within project limitations and parameters.

Poor Requirement:

- *The monthly cycle will be run on the last Friday of the month between 7PM and 8PM ET.*
- The platform should have 100% accuracy in product recommendations

Improved Requirement:

- *The monthly cycle will be run on the last Saturday of the month starting at 7AM and completing by 7PM ET.*
- The e-commerce platform should aim for a product recommendation accuracy rate of 85% or higher, utilizing user behavior and purchase history data.



SMART



RELEVANT / REALISTIC

Relevant requirements are relevant to project context and goals, fit alongside with other requirements, are appropriate when considering other related project constraints.

Poor Requirement:

- *The site will generate over 1,000,000 hits within its first 12 hours of implementation.” (Is this likely / necessary to occur? Is there a better way to measure this outcome?)*
- *The ecommerce platform should include a feature for users to send virtual flowers to each other.*

Improved Requirement:

- *The site shall be ranked within the first result page on three (3) major search engines (Google, Bing, and Yahoo) within its first 12 hours of implementation.*



SMART



TIMELY

Time-bound requirements are timely, clarify how quickly a requirement needs to be finished, executed or implemented, and avoid vague time references such as “fast”, “quick” or “soon”.

Poor Requirement:

- *System availability will be achieved soon after the cycle is completed*
- *The system should provide user account recovery options*

Improved Requirement:

- *System availability shall be achieved after cycle completion and by no later than 6AM ET on Mondays - Fridays.*
- *The e-commerce platform should send password reset emails to users within a maximum time frame of 15 minutes upon receiving a request for account recovery.*

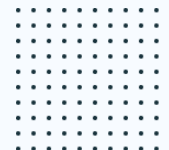


Requirements Elicitation

Definition

Elicitation steps

Elicitation techniques





What is Requirements Elicitation?



The common approach to obtain requirements information is through “**elicitation**”. It is the activity of drawing out information from stakeholders and other sources.

Requirement elicitation can be done by **communicating** with **stakeholders** directly or by doing some **research**.





Prepare for Elicitation

- Define approach, scope and plan
- Specify the techniques, activity objectives, participants, when it will take place;
- Prepare needed materials (lists of questions, input documentation etc).



Conduct Elicitation

- Carry out the elicitation activity, guide it and capture the outcomes
- Types of activities: collaborative, research, experiments
- Make use of soft skills



Document Elicitation Results

- Record the information provided by stakeholders in order to add it in the analysis process.
- Organize, compare information, remove duplicates

Documentation forms: meeting notes, recordings, requirement catalog, process flows, descriptions, rules catalogue...



Confirm Elicitation Results

- validate that the stated requirements match the stakeholder understanding of the problem and the stakeholders needs.



#Brainstorming

Brainstorming *can be described in the following phases:*

Having the session

- Share and record ideas
- Get as many ideas as possible
- Give a chance to speak to all the members

2

Preparation

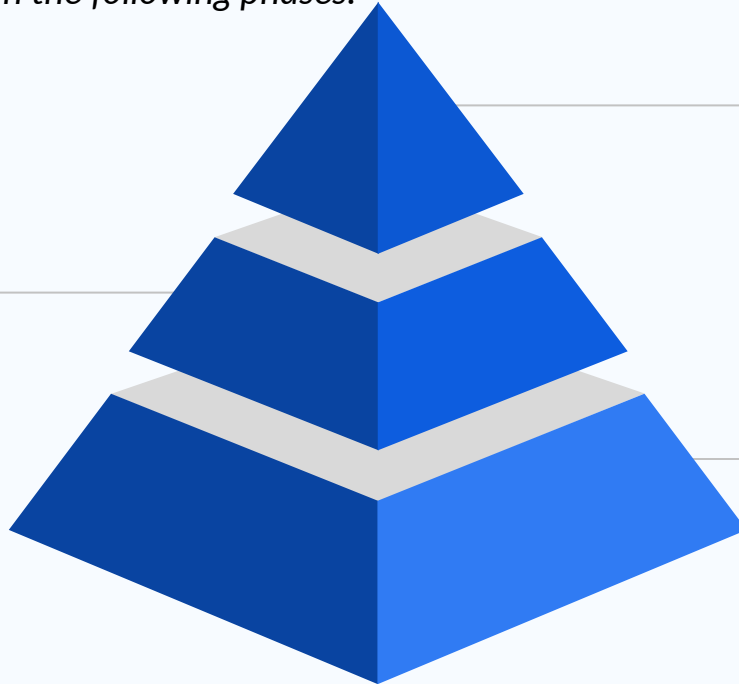
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- Define Agenda
- Define Time Limit
- Identify the participants

Concluding the results

3

- Discuss the ideas and remove the duplicate ideas
- Distribute Final List





#Interview

Basic Rules:

- Have a clear overall purpose for performing the interview.
- Identify the interviewees in advance and communicate interview goals to them.
- Prepare interview questions before the interview.
- Predefine the location of the interview and its duration.
- Organize the information and confirm the results with the interviewees as soon as possible after the interview.

Benefits:

- Interactive technique
- The immediate follow-up to ensure the interviewer's understanding.
- Encourage participation and build relationships by connecting with the stakeholder.

Drawbacks:

- Time consuming
- Commitment is required from all the participants.
- Sometimes training is required to conduct effective interviews - for an effective interview, you need to follow the 5W1H technique.





#Requirements Workshop

Benefits:

- You can get on the spot confirmation on requirements.
- Successfully gathered requirements from a large group in a short period.
- Consensus can be achieved as issues and questions are asked in the presence of all the stakeholders.
- Documentation is completed within hours and is provided quickly back to participants for review.

Drawbacks:

- Stakeholder's availability might ruin the session.
- The success rate depends on the expertise of the facilitator.
- A workshop goal cannot be achieved if there are too many participants.





Document analysis

- elicit information pertaining to an existing process or structure.
- the information presented is already structured, validated
- needs to be identified what information is relevant from each document
- Risk: outdated documentation, time consuming
- Exemples: standards, regulations, contracts, RFP, process or system documentation

Interface analysis

- Identifies boundaries of a system and analyze the interactions between
 - User and System (GUI)
 - System to System
- Used to
 - Define the current state of a system or process
 - Identify constraints and limitations
 - Define inputs/outputs, rules, triggers

Observation

- primary goal is to better understand existing business processes and to identify problems and opportunities
- Types
 - Active - ask questions during task observed
 - Passive - work uninterrupted, ask questions after completion
 - Simulation

Competitor analysis/Domain research

- Visit website, use products, applications
- Gather data to support your Value Proposition
- Identify most valuable features, weaknesses, market segments or capabilities not covered, define your strong points and unique capabilities



Root cause analysis

5 Whys

Asks repeatedly Why questions, going deeper and deeper in the problem

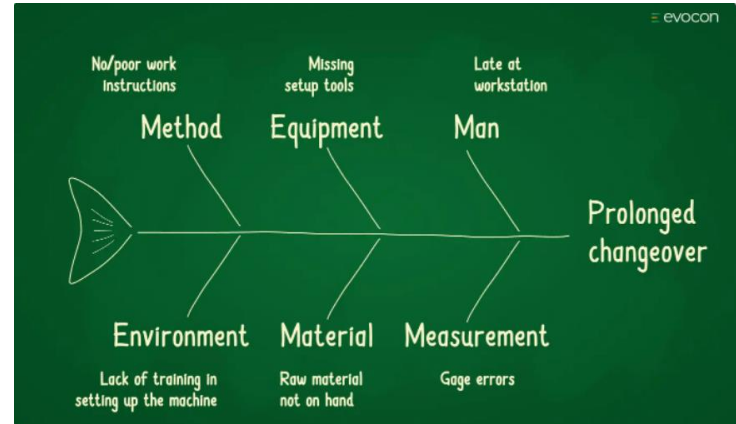
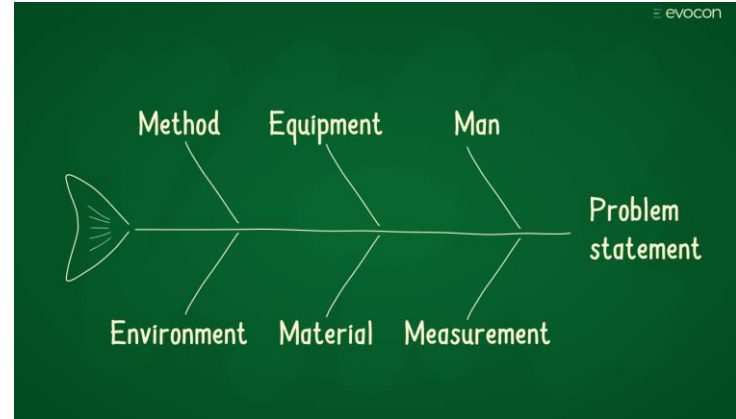
You may use also other Why's questions around the same topic (who, when, how much, often and so on)

The answers reveal the actual need, complexity, and also the priority

Fishbone

Identify potential causes of a given problem or defect.

Supports brainstorming ideas by visually representation





References

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“A Guide to the Business Analysis Body of Knowledge

(BABOK® Guide) v3.”

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“Business Analysis for Practitioners - A Practice Guide”

- ❑ Barbara A. Carkenord
“PMI-PBA Exam Prep”

- ❑ <https://medium.com/@nhan.tran/business-requirements-vs-stakeholder-requirements-8a5127c4fb12>

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Business Analysis Techniques: 99 Essential Tools for Success.”
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- ❑ Business Analyst Mindset – the Twelve Principles by Yulia Kosarenko <https://why-change.com/2019/09/05/business-analyst-mindset-the-twelve-principles/>

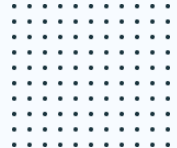




Bonus track - Stakeholders

Definition

Stakeholders Characteristics





What are Stakeholders?

There are over 55 Stakeholder definition variations listed in the book “*Stakeholder Theory and Practice*”.

- ❑ **Dictionary:** “An employee, investor, customer, etc. who is involved in or buys from a business and has an interest in its success”
- ❑ **IIBA:** “A group or individual with a relationship to the change, the need, or the solution.”
- ❑ **PMI:** “An individual, group, or organization, who may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project.”

Plain English: A stakeholder is **anyone** who has an **interest** in the **activity** you are doing, whether or not they know it.





How can I discover the stakeholders



Use questions like:

- Who uses the As-Is solution? Will there be other people using the To-Be one?
- Who needs to be convinced about the usefulness of the activity? Whose buy-in is needed?
- Who needs to know about the project or requirements? Who needs to approve?
- Who can block these changes? Who has an interest in not delivering the project?
- Who is contributing to the design, implement, support the new solution?
- Are there any third parties involved?
- What regulations apply? Who knows them?

Not finding them all, means you can't have all the requirements!

Each stakeholder brings more complexity in the project!





Stakeholders Characteristics

Attitude

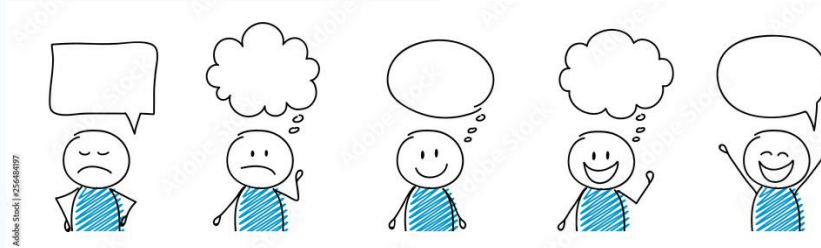
Identify which stakeholders support the project and which stakeholders do not.

Understand concerns of the unsupportive ones and obtain their engagement.

Level of Influence

Identify who can **help** rally for the solution as well as identify those that can **hinder** project success.

Identify influential stakeholders and areas where more time needs to be spent on **building relationships** and collaborating with key stakeholders.



Credits to:

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Stakeholders Characteristics

☐ Culture

How they work, interact, communicate, negotiate, deal with conflict

What is appropriate and what not, what is default behaviour

☐ Location and Availability

Identify each stakeholder location, methods of connectivity (when remote), availability, different time zones

Culture <> Location

☐ Experience, knowledge and background

How long they work in the organization, industry, how technical are they



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