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Module 1 Introduction

Introduction

In this module, you will:

- *Define business analysis and what it means in today's environment*
- *Recognize the system development life cycle and various approaches*
- *Discover the objectives and topics covered in the workshop*
- *Discuss the workshop logistics and agree on classroom norms*

Welcome to *Business Analysis for Non Business Analysts*. This course has been designed to cover a wide range of topics and activities important to business analysts. Obviously in two days we can't address the immense breadth and depth of capabilities, tasks, and skills that a business analyst would gain from years of experience. But in two days we can develop a strong foundation of knowledge, offer structure to the sometimes chaotic analyst's workload, identify useful tools and techniques, and discuss various methods to improve performance and create efficiency in our own work environments.

This section of the Participant Guide will give you information on the course objectives and topics of discussion, the logistics for this specific workshop, and some guidelines for obtaining the maximum benefit from the workshop.

Defining Business Analysis

Before we get start, we need to define **business analysis** and describe **the role of a business analyst in today's work environment**. Since we're here for two days to talk about this, it's important that we all recognize what the terms mean and why this job role is critical to the organization. To develop a working definition, a few related questions will generate critical thinking and active discussion.

Introduction

1. **What is the role of the business analyst within your organization?**

2. **What tools and techniques are used by your business analysts?**

3. **What skills and capabilities are important for a successful business analyst?**

4. **What are the biggest challenges you encounter as a business analyst?**

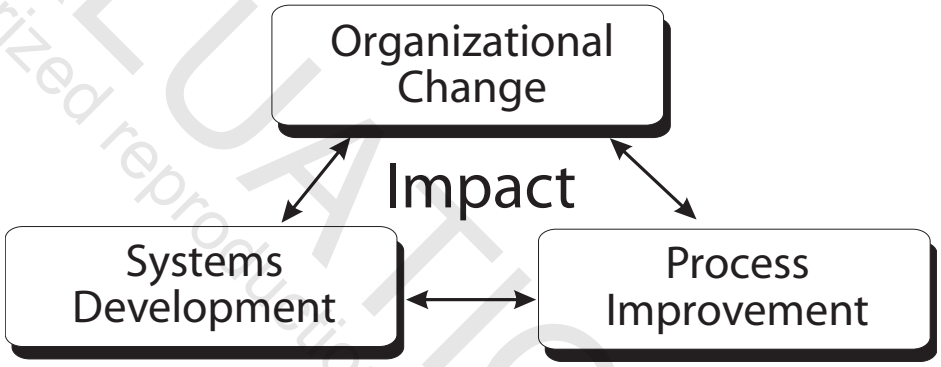
Introduction

What is Business Analysis?

Based on all the previous answers just discussed, business analysis is a complex set of skills and capabilities, tools and techniques, and challenges and rewards that creates a defined job role vital to organizations today. The International Institute of Business Analysis (IIBA) defines it as follows:

> *Business analysis is the set of tasks and techniques used to work as a liaison among stakeholders in order to understand the structure, policies, and operations of an organization, and to recommend solutions and enable the organization to achieve its goals.*[1]

Solutions often include the following components:



- **Systems Development** – Analysis work performed to review the current automated components used by an organization, identify issues, define requirements for system functionality and non-functional requirements, and suggest the best possible system solutions to fill the business needs.
- **Process Improvement** – Analysis work to review the current manual or automated workflow activities and tasks performed by people, departments, and systems which are designed to achieve a specific and successful business outcome. This analysis would include the relationships, exchange of information, and interactions/handoffs between areas. It would also include a detailed investigation of procedures, policies, and observations of the work being performed.
- **Organizational Change** – Analysis work to review the organizational structure, job roles and responsibilities, lines of management, basically the people side of the process and system changes. Projects initiated on an enterprise level are often reserved for senior analysts, managers, directors, and executives. Business analysts are often asked to provide detailed information and recommendations used in the organizational change decision-making process.

[1] **International Institute of Business Analysis (IIBA), Business Analysis Body of Knowledge (BABOK) version 2.0 © 2009**

What is a Business Analyst?

This is another important question which will result in various answers depending upon how your organization defines the roles, responsibilities, and job title. The IIBA's definition is as follows:

> *Business analysts are responsible for eliciting, analyzing and synthesizing the actual needs of stakeholders.*
>
> *Business analysts often play a central role in aligning the needs of business units with the capabilities delivered by information technology, and may serve to facilitate communication or "translate" between those groups.*[2]

The role or job description of business analysis work has various titles in different organizations, such as business analyst, business systems analyst, systems analyst, and process improvement specialist. In addition, business analysis work may be part of other job titles within the information technology department, such as programmer analyst, database, web, or applications developer, and systems administrator. As another option, specific functional areas within an organization may have their own analysts which would have a title relevant to the area in which they work. We will be using the title of business analyst in this workshop to cover this broad range of job descriptions.

A business analyst often performs any or all of the following:

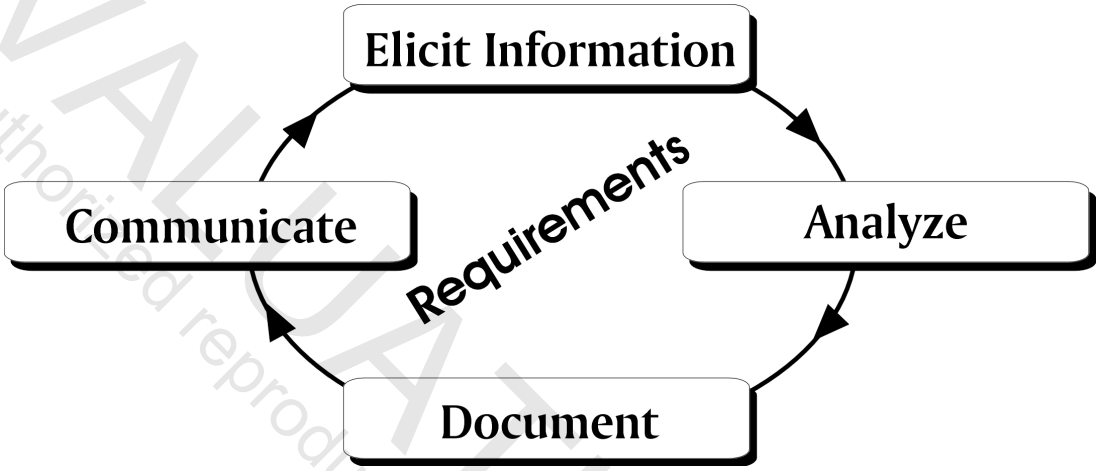
- Recognize business goals and objectives, as well as background of organization/ department being analyzed, market, products, competition, customer, financials, stakeholders, what has changed, etc.
- Focus on business processes and procedures
- Identify cost saving opportunities, increase efficiencies, decrease errors and issues
- Identify and interact with business users at various levels to gather and validate information and determine requirements
- Identify impact on other areas both internally as well as outside the organization
- Recognize exposure or potential risks associated with process changes
- Understand available and applicable technologies (while not necessarily being technical)
- Act as a liaison between the business stakeholders and the technology department
- Document and manage requirements from a "what is needed" perspective

[2] **International Institute of Business Analysis (IIBA), Business Analysis Body of Knowledge (BABOK) version 2.0 © 2009**

Introduction

Today's Approach to Business Analysis

A **new business opportunity, need for improvement,** or a **specific problem** will initiate analysis work which eventually may be approved as a project to implement suggested solutions. The diagram below shows a typical sequence of tasks that an analyst would follow during analysis work.



Business Analysis Diagram

Notice that the arrows rotate full circle which indicates that there is iteration/repetition in business analysis work. Rarely is a single pass adequate to fully understand the area being analyzed. Several iterations may need to be performed for a complete and accurate requirements document.

The System Development Life Cycle

It is helpful go about our work using some kind of structured approach or methodology, for example, a system development life cycle. From a graphical perspective, each component of the SDLC provides specific information and completes activities necessary to begin the next phase of work. **Each phase usually requires some level of review and approval to proceed to the next phase of work**.

There are several variations on the SDLC. Various organizations and consulting companies have built their own methods based on internal requirements and previous project experience. In addition, different project types might demand a different methodology based on criteria like complexity, size, visibility, user involvement, time frame, and management decision. However, the main phases in the SDLC and the ultimate objectives of any methodology are the same: initiate, analyze, design, develop, test, and implement a project.

Approaches

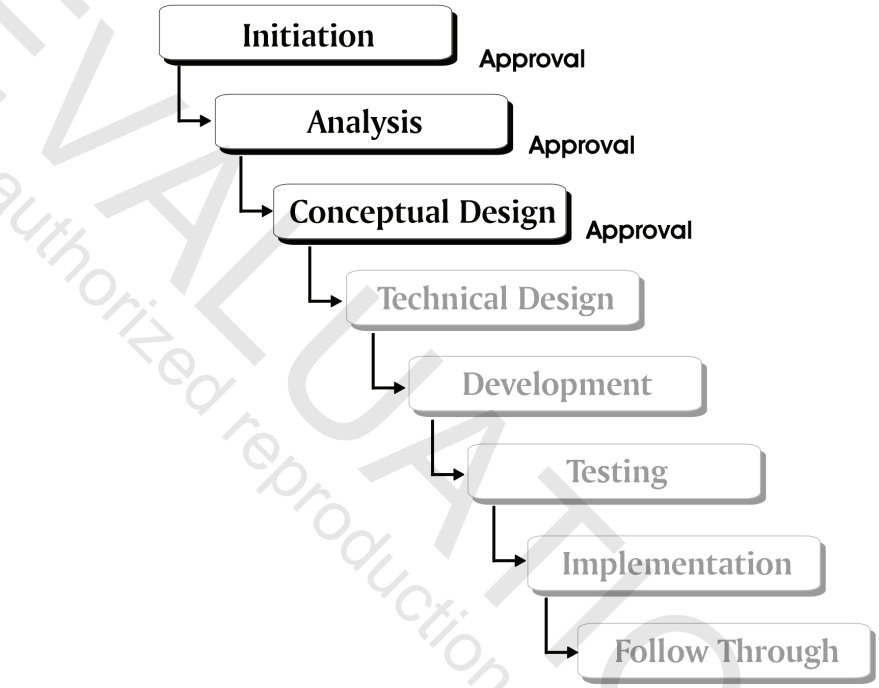
There are two different approaches to the industry-recognized SDLC. They are as follows:

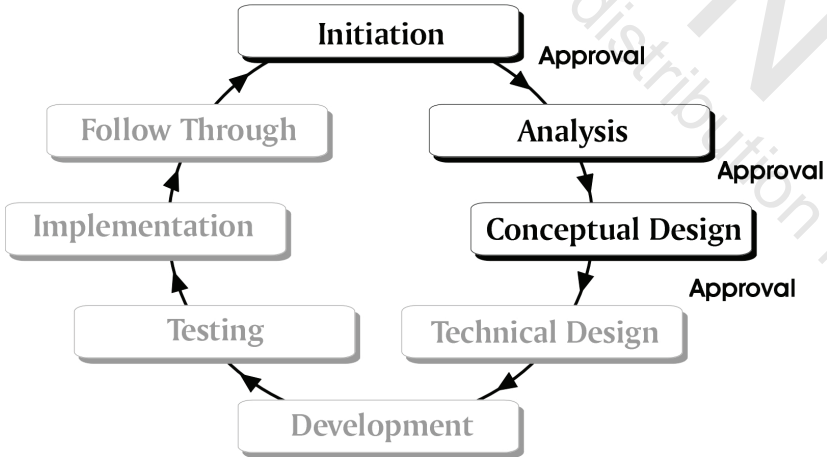
- **Waterfall** – Moving from project initiation through implementation and its related components. Waterfall indicates that the majority of requirements are usually gathered before design work is started.
- **Spiral or Iterative** – This approach focuses on smaller "chunks" of analysis, requirements development, and design work. It aims to produce individual modules of a system that will eventually interoperate as a whole. This approach indicates that only the requirements for any given component need to be identified at that time. Then the process is repeated for each additional phase of work.

Approvals

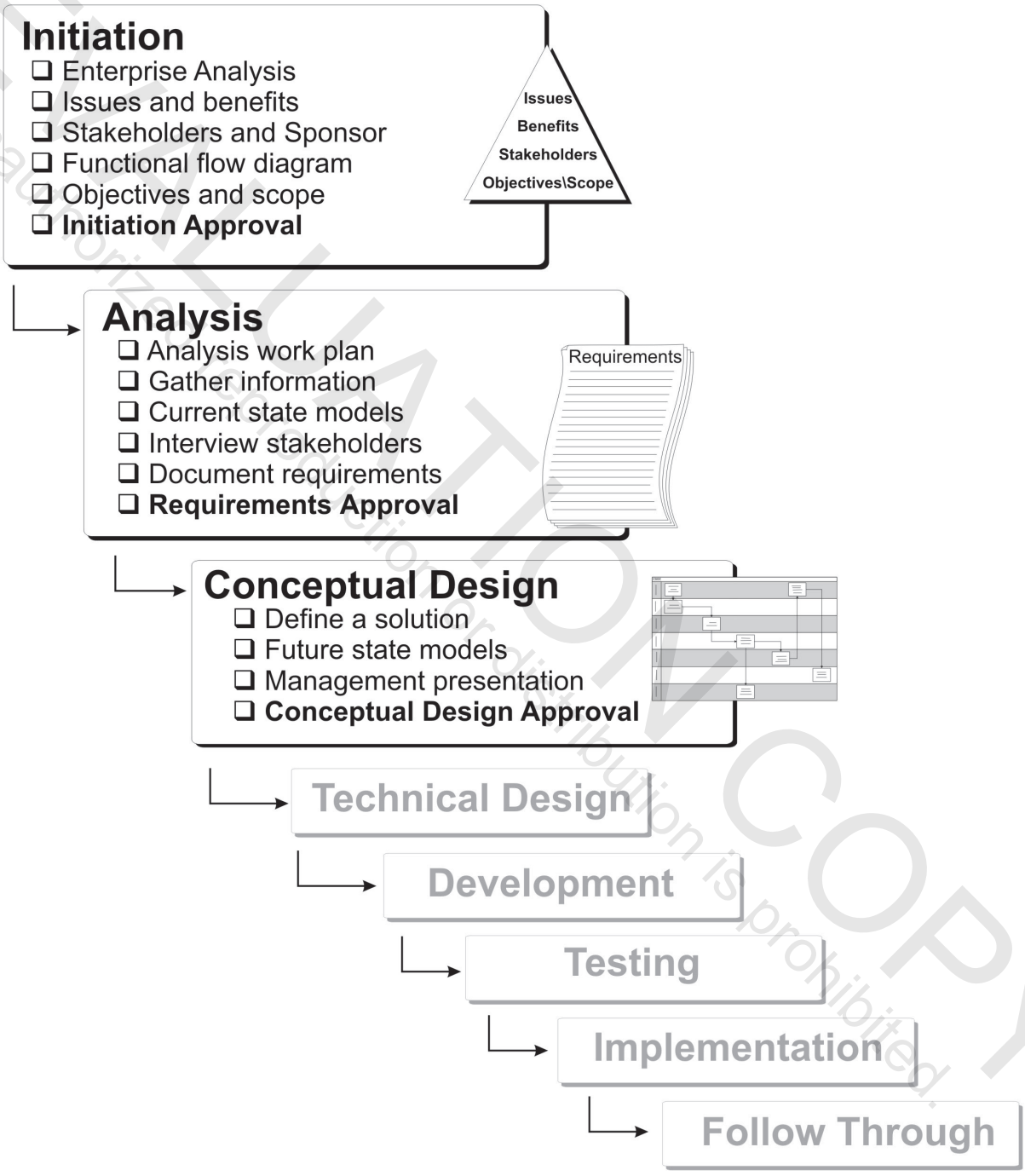
There are at least three points at which a business analyst commonly would seek approval to proceed. Each organization will have their own formal or informal process to document the project status and get the go-ahead to move forward or stop the project as appropriate. These approval checkpoints (often called approval gates) are used by management and the organization to make sure that the project work being undertaken is feasible, necessary, in line with the business objectives, prioritized, and that the project has expected value.

The System Development Life Cycle





Business Analysis Road Map



Introduction

Workshop Agenda and Objectives

This workshop uses a case study to help you explore the topic of business analysis. The following topics are covered:

1. **Introduction** – Understand the objectives, topics, and logistics for the workshop

Initiation

2. **Enterprise Analysis** – Perform an overview to learn about the case study company
3. **Review the Scope** – Examine issues, identify stakeholders that are impacted, and use this information to define the scope and objectives of the project.

Analysis

4. **Procedure Analysis** – Analyze an existing business process and any supporting forms and reports. Document the process using a modeling tool
5. **Stakeholder Interviews** – Interview key stakeholders and subject matter experts to get answers to questions about the existing procedure, as well as suggestions and requirements for improvement
6. **Requirements, Assumptions, and Constraints** – Define the business and user requirements needed to create a successful future solution. Review the assumptions and constraints associated with the solution

Conceptual Design

7. **Defining a Solution** – Design a high-level solution to improve the business process

Workshop Logistics

Use the table below to record the logistics for your particular workshop.

Instructor's name	
Instructor's email	
Start/end times	
Lunch (approximate)	
Breaks	

Your Role This Week

For the next two days you will be working for a different company (if only you could get two paychecks). Note the characteristics of our case study company below, along with your role in the company:

Employed by	
Consultant or employee?	
Job responsibility	
Department	
Your manager	

Notes

Module 2 Enterprise Analysis

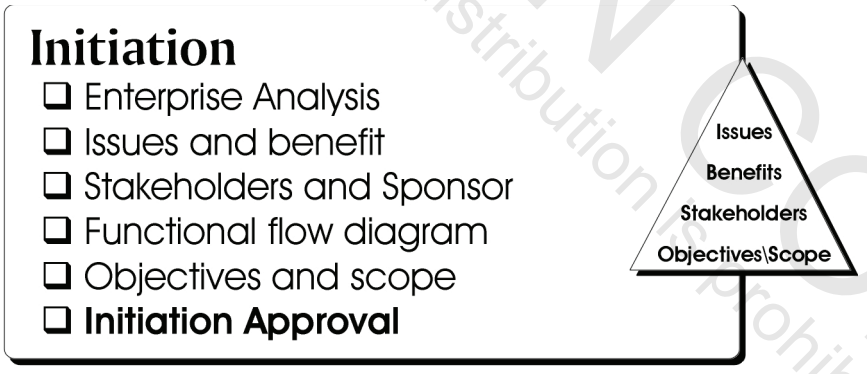
Enterprise Analysis

In this module, you will:

- *Define enterprise analysis and state its purpose*
- *Identify the types and sources of information useful in this level of analysis*
- *Perform a high-level enterprise analysis to "size up" the organization so that you can operate most effectively during further analysis work*
- *Gain insights into the case study company involved in the workshop*

Before we get started on our project, we should take some time to get oriented. The first project we work on as an employee or consultant requires us to consider the big picture and review the entire organization. We have to establish our bearings quickly and accurately to be effective in detailed analysis work. As our experience with the organization or department increases, it is equally important to revisit this enterprise analysis work at a high level to gain an understanding of what has changed.

Some analysts are asked to perform or assist in identifying business opportunities, strategic planning, and feasibility studies. It is not practical to be involved in this type of enterprise-altering work without a solid foundation of knowledge about the organization as a whole and how it relates to its customers, competition, the environment, market trends, financial factors, and a wide range of other components. Without understanding the important nature of enterprise analysis, a business analyst may get too caught up in the details to recognize the impact a process or system change could have on the organization and vice versa. Therefore, this step is critical to begin each and every project



What is Enterprise Analysis?

Enterprise analysis is the pre-project work that offers analysts insights into the past, present, and future of the organization and its working environment. New information only means something when we consider it as part of a familiar context.

Enterprise Analysis

> *Business analysis activities necessary to 1) identify a business need, problem, or opportunity, 2) define the nature of a solution that meets that need, and 3) justify the investment necessary to deliver that solution.*
>
> *It is through enterprise analysis activities that business requirements are identified and documented.*[3]

We perform enterprise analysis for the following reasons:

- To learn about the organization and its relation to the outside world
- To relate our project to some context within the organization
- To understand how past events led up to the situation as it stands right now
- To provide a foundation for strategic planning, feasibility decisions, and risk assessment
- To identify business' requirements, goals, and objectives
- To prepare the business case

[3] **International Institute of Business Analysis (IIBA), Business Analysis Body of Knowledge (BABOK) version 2.0 © 2009**

Enterprise Analysis

What Has Changed?

Enterprise analysis is centered on fact finding. It is not decision or solution-driven in its own right, but the information uncovered may be helpful in initiating further investigation. One of the most important questions to ask when performing enterprise analysis is: **what has changed?**

Considering that all organizations experience internal and external changes, this question is relevant and may uncover new information on a day-to-day basis, and sometimes even minute-by-minute. When the investigation of the organization may be too high-level given a particular change, analysis of the department or functional area of work may be more appropriate. But don't allow a narrow mindset to prevent you from seeing the bigger picture. Everything is related back to the greater whole and focusing too heavily on only one segment of the enterprise may create problems down the line.

This question is also relevant to help uncover why additional analysis work may be needed. Consider that business objectives, processes, and systems work to fulfill a certain need at a specific point in time. By asking "what has changed?" we may be able to identify the time and reason that changes took place, causing it to no longer work in the same expected way. Projects have four main origins:

1. **Changes in the outside world**
   New regulations and laws, changes to the economic climate, new competitive challenges, globalization opportunities, and customer demands create projects.
2. **Changes in the organization**
   Executives and top managers may re-evaluate company objectives, philosophies, or activities, or a corporate restructure may necessitate projects to address the changes.
3. **Changes in major systems or operations**
   Functional systems may suffer a significant breakdown or a series of small but troublesome problems that can no longer be ignored or corrected through "Band-Aid fixes." Newly installed systems and processes may have an impact on existing systems/processes that were not updated at the same time.
4. **Changes in products, services, line of business**
   Building new products, offering different services or changes in business focus may demand project initiation to develop systems or processes that have never been necessary before.

What Information Should We Gather for Enterprise Analysis?

What kinds of information can help us learn about the organization as a whole? Where would we look to get this information? Use the space below to record types and sources of information.

How Should We Collect This Information?

Here are a few guidelines for collecting information:

- Start by learning the organization's mission/vision statement, then get more detailed.
- Keep an open mind and fact-finding perspective. Don't jump to solution mode.
- Watch out for over-collecting. This is meant to be high-level.
- Write down key information for future reference.
- Work from the general to the specific.
- Don't just gather material. Study it.

Most importantly, after gathering all the information, consider the question "what has changed?"

Enterprise Analysis

Types of Information to Collect

As a first step, working from the general to the specific, we need a short, working definition of the main purpose of the organization. We want to state clearly what the organization does. This specific statement identifies the general industry and tells us what the company does within that environment. Extra information about the customers and markets it serves adds useful detail.

Beyond this, our individual lists will vary depending on the needs of the project and the characteristics of the analyst. For starters, here are some things we can look at:

1. **Organization and size**
   - Company size and location of subsidiaries
   - Recent organizational changes
   - Organizational charts
   - Global or local

2. **General history**
   - When did they get into the business they are in today?
   - Other businesses in the past?
   - Is it an "old" or a "new" company?

3. **Products and services**
   - Contributions to income for each product line or service offered
   - Any new products/services in the pipeline?
   - Any products or services dropped recently or in the past?
   - How do our products/services compare in the marketplace?

4. **Functional areas or division of work**
   - Main departments or divisions
   - The functional relationship between these areas

5. **Industry practices**
   - Changes and trends in industry practices
   - Known major industry problems
   - Niche products or services, differentiation

6. **Sales and earnings**
   - Trends and actual figures from annual report
   - Type and location of customers
   - Main competitors and products
   - How customers regard the company

7. **Internal information**
   - Accounting and auditing practices
   - Current patterns of management thinking, philosophies
   - Known major systems problems
   - Union or non-union
   - Level of technology in use
   - Culture of organization
   - Regulatory or legal compliance requirements
   - Willingness or adaptability to change

Enterprise Analysis

Sources of Information

Information can be found in many various locations. Some of it will be documented and others may be word of mouth. Both are an important part of fully understanding the organization. Consider the following sources of information when performing enterprise analysis:

- **Intranet –** The organization's internal viewpoints and information source.
- **Internet –** The worldwide view the organization provides from its own web-site. Also search other web-sites which have information posted about the organization. They may have more general and less biased viewpoints.
- **Financial Institutions –** These may reference and rank the organization position and viability based on industry-recognized financial measurements.
- **External Documents –** Profiles and prospectuses, organizational literature, marketing and media promotions, press releases, news and magazine reports, and customer-focused information.
- **Internal Documents –** Human resources policies and procedures, organizational charts, functional area definitions, manuals, and training materials.
- **Verbal Communications –** The opportunity to speak with key individuals within the organization who have been around and know the history and possibly the strategic vision of the organization. In addition, discussions with people involved in day-to-day operations will offer insights into the culture, morale, work styles, cross-functional activities, etc.

Keep in mind that although this is analysis and a fact-finding mission, it is meant to be at a very high level. We sometimes refer to this as the 30,000-foot overview. We are trying to gain perspective and without a formal project scope, we don't want to get too involved in the details and interviewing process just yet. There will be time for that once we have some direction and focus.

How Does Enterprise Analysis Help the Project?

Examining this information about the organization helps us in these areas of the business analysis process:

1. **Project and Scope Definition** – We concentrate on learning about issues and opportunities for improvement in the context of a larger framework. We use background information to build our business case and justify the project. Our knowledge of some historical background gives credibility to our proposal. Knowledge of what has changed allows us to focus on where and when problems began or new business requirements surfaced.
2. **Planning the Analysis** – The perspective we gain in our Enterprise Analysis helps identify additional information needs, where to collect that information, and define analysis work.
3. **Procedure Analysis** – Using a top-down approach allows the analyst to gain perspective and directs the work of digging for details within departments, processes, and systems.
4. **Stakeholder Interviews** – We are better able to recognize the general culture, values, and interactions of people both internal and external to the organization.
5. **Solution Design** – Our analysis allows us to understand the strategic plan and business objectives. It guides the analysis work to identify the best possible solution to fulfill the business needs, and helps steer clear of jumping directly to a technology-based solution.
6. **Management Presentation** – Our overall knowledge of the organization makes us look credible and well-grounded when we propose the business case for approval. We also know which management interests to highlight in the presentation.

As you can easily see from this list, enterprise analysis is critical to every step in the process. It's the right place to start any project even if just a small amount of time is allocated to this task.

Enterprise Analysis

Real World Application

To make enterprise analysis work for each and every project in the real world, try these suggestions:

- **Consider what has changed** – Change prompts more change. Internal changes to processes or systems will have an impact on other processes or systems and will always have an impact on the employees. External changes can have a dramatic impact on the business, demanding change to adapt or else go out of business.
- **The big picture** – Before digging for details, it is helpful to understand the big picture and have a broad perspective of the organization as a whole. It can also help position the project within the business for greater success.
- **Spend adequate time** – Don't feel like you're backtracking in performing this work after a project has been initiated. It's necessary to have a foundation of knowledge before proceeding to the details. It doesn't have to take long to perform enterprise analysis if you are familiar with the organization and stay focused on the task.
- **Don't skip enterprise analysis** – Skipping enterprise analysis could create too narrow a focus even for a seasoned analyst who has been with the organization for a number of years.
- **Start documenting** – Document your findings during enterprise analysis and reference them throughout analysis work. Also, start a glossary of terms that can be updated and used throughout the analysis work.

Don't be surprised if your knowledge of the enterprise gets you involved in bigger initiatives, like providing information for strategic planning, feasibility studies, and risk analysis. It will also help further your career as someone who is capable of seeing the big picture and can recognize the corporate vision.

Module 6

Requirements, Assumptions, and Constraints

Requirements, Assumptions, and Constraints

In this module, you will:

- *Define requirements and SMART requirement attributes*
- *Recognize and write stakeholder requirements*
- *Review assumptions and constraints which will guide the solution selection*
- *Validate stakeholder requirements to gain approval to proceed to design work*

Before doing any design work, the analyst must have a clear understanding of the issues, needs, and requirements of the business, process, and people that use the system. This happens in the analysis phase of the SDLC. From the analysis work, the analyst should be able to formulate a list of requirements that will be necessary for the system to be considered successful. Requirements are the most important input into defining the solution. Even the most technically advanced and well-developed solutions will be considered a failure if they do not meet the business and users' needs.

In addition, design work should not begin without an understanding of constraints which would limit the solution options. Constraints are known absolutes that must be adhered to when considering solution alternatives. One solution that may seem perfect to fulfill requirements may not work when defined constraints are considered. Assumptions are the current unknowns that the analyst must remain aware of during the design process. They may factor into the solution decision, and could have an impact on successful outcome.

Effective Requirements Practices

The use of effective requirements definition and management practices leads to successful projects, satisfied customers, and increased professionalism in the industry. Benefits include:

1. A collaborative relationship and a clear understanding of the needs between the users, customers, stakeholders, and the technical team.
2. A strong commitment of the project team members to the project objectives.
3. A system architecture that supports the users', customers', stakeholders', current and future needs.
4. The ability to accommodate changes in requirements as they are progressively elaborated.
5. High quality systems and products.
6. System development cost savings, accurate schedules, and customer satisfaction.

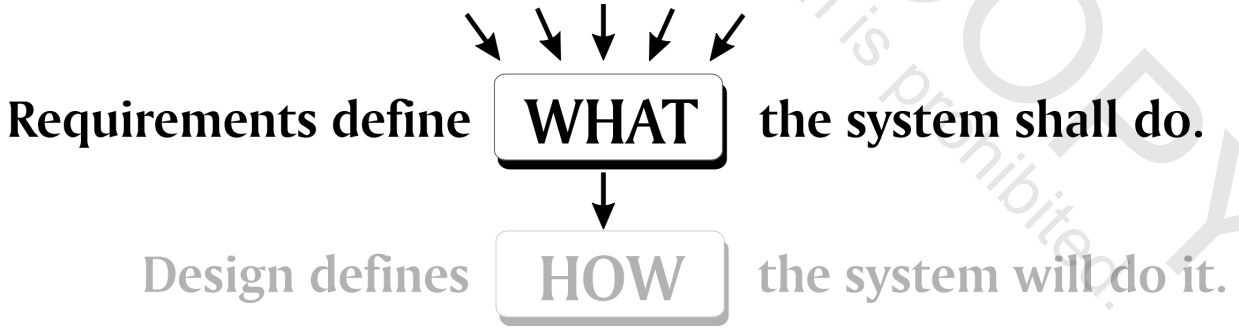
Requirements

Before we can identify stakeholder, functional, and non-functional requirements, we need to know what to look for. Here is a definition of a requirement.

Requirement

> *A condition or capability needed by a stakeholder (user) to solve a problem or achieve an objective.*[5]
>
> *A condition or capability that must be met or possessed by a solution component to satisfy a contract, standard, specification, or other formally imposed documents.*[6]

It is also important to remember when identifying requirements that they are statements of "**what**" is needed and not "**how**" it will be fulfilled. How is defined later in the design process.

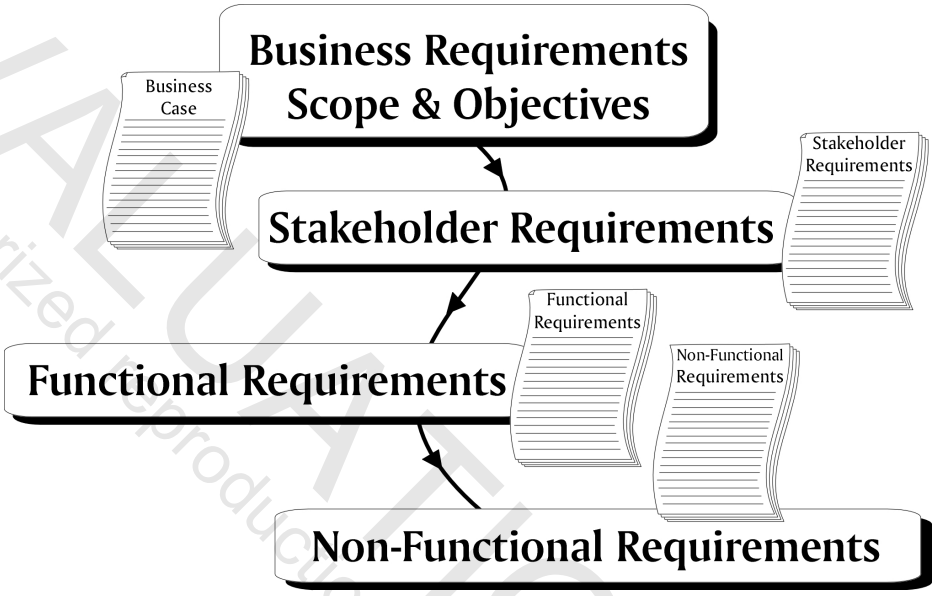


[5] IEEE Std 610.12-1990 (the word "user" has been replaced by "stakeholder"). Also quoted in the IIBA BABOK v2.0
[6] International Institute of Business Analysis (IIBA), Business Analysis Body of Knowledge (BABOK) version 2.0 © 2009

Requirements, Assumptions, and Constraints

Types of Requirements

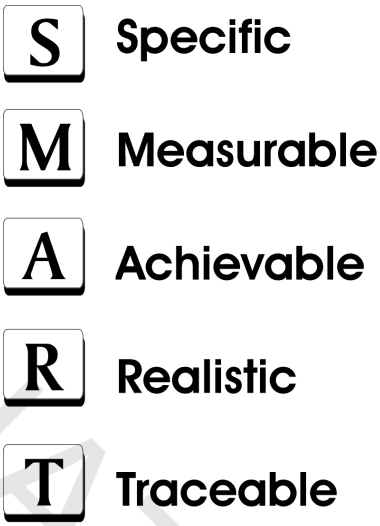
Requirements fall into various categories and are called different things respectively throughout the industry. Each organization will have their own perspective and definition as to a particular type of requirement, how it is identified, how it is written, tracked, and validated. The following diagram shows the major categories of requirements and their relationships.



- **Business Requirements** — higher-level statements of the goals, objectives or needs of the enterprise. The reason for initiating the project and ways to measure success.
- **Stakeholder Requirements** — statements of the needs of a particular stakeholder or class of stakeholders as well as how that stakeholder will interact with the solution.
- **Functional Requirements** — the behavior and information that the solution will manage, capabilities the system will be able to perform in terms of behaviors or operations.
- **Non-Functional Requirements** — describe environmental conditions under which the solution must remain effective or qualities that the system must have. Also known as supplementary or quality requirements.

SMART Requirements

To simplify things, SMART helps us remember quality characteristics that a statement of need must possess to be a good requirement.



Try to use these guidelines when identifying and writing requirements. Keep in mind that the best writers are rewriters. It may take several tries before a requirement is written in such a way that it fulfills all the SMART criteria. Review the requirements with other analysts and get their feedback on how to improve the specific, measurable, achievable, realistic, and traceable qualities of the requirement.

- **Specific** — Requirement wording is clear, concise, and unambiguous.
- **Measurable** — Requirement has criteria which can be tested.
- **Achievable** — Requirement can be successfully attained given project environment.
- **Realistic** — Requirement is appropriate to the project scope and available resources.
- **Traceable** — Requirement can be associated with a stakeholder, process, or system function, model, design element, or test document.

Since user requirements are often written in the user's own words, they may not always follow the SMART criteria. However, care should be taken to write functional and non-functional requirements using the SMART characteristics.

Note: The *IEEE Guide for Developing System Requirements Specification* defines well-formed requirements as having the following criteria: Specific, Unambiguous, Necessary, Measurable, and Constrained.

Requirements, Assumptions, and Constraints

Identifying Stakeholder Requirements

When asked directly to list requirements, stakeholders often have a difficult time coming up with specifics. They may be able to offer a few general suggestions, but can't easily formulate their needs into requirements. Stakeholder requirements should be captured and validated with other stakeholders for necessity. Frequently, these high-level requests will be a place for the analysts to begin, but rarely does the stakeholder requirement offer enough detail to design and build a new system. Therefore, stakeholder requirements are most often decomposed into functional and non-functional requirements by the analyst to define the specific characteristics, behaviors, and expectations that the future system should address.

Some organization have the analyst document stakeholder requirements only for traceability purposes. Many times, the stakeholder requirements will be considered the "rough draft" prior to completing a final requirements specification. Other organizations will include stakeholder requirements as a category unto itself to list out the general and open-ended needs that the stakeholders have requested.

When listening for requirements, the analyst should consider them from two different perspectives: explicit stakeholder requirements and implied stakeholder requirements.

Explicit Stakeholder Requirements

If a stakeholder can provide a specific need or suggestion, then they have explicitly stated a requirement. For example, during an interview a stakeholder might say:

- *"I need a weekly report which shows the current sales figures listed by sales person and product."*
- *"When I type in the customer's account number, I want the customer record to come up, just like in the old system."*
- *"I need to see all the accounts which have an outstanding balance 90 days overdue."*
- *"I need to be able to review each posted transaction for the last two months."*

A good analyst will write these requests down in as much detail as possible and validate that they are necessary for the new system to be successful. Stakeholders like to see that their suggestions are being documented so that they will not be forgotten. Later, the analyst can review the stakeholder's requests and develop them into stakeholder requirements.

Often, stakeholder requests can be defined as either functional or non-functional (quality or supplementary) requirements. Some organizations like to document the stakeholder's requests, needs, and requirements separately, then define the functionality that will fulfill the request. The location or categorization of the requirements is less important, as long as the need is captured somewhere in the requirements documentation. If stakeholder requirements are written in their own section, it is helpful for traceability purposes to define the stakeholder, workgroup, or functional area that the requirement came from for future validation purposes.

Implied Stakeholder Requirements

Requirements are not always so clear. Stakeholders may complain or express frustration with some part or aspect of a system or process. Rather than assume that such complaints reflect hard requirements, analysts should ask additional questions to develop a better understanding of the stakeholder's needs. Then the analyst can write a requirements statement that represents the stakeholder's request. Some examples of implied requirements might sound like:

> *"Why do I have to retype all the vendor information in the RFP, when it's already being stored in the system? Isn't there a better way?"*

Example Stakeholder Requirement: The stakeholder shall select the correct vendor's information to be populated into the Request for Proposal form.

> *"I get frustrated that the computer beeps every time I hit the enter key. I can't see a good reason for the program to do that anymore."*

Example Stakeholder Requirement: The stakeholder shall be able to activate or deactivate the audible beep associated with using the enter key.

> *"The text on the screen isn't very easy to read because of the colors and text size."*

Example Stakeholder Requirement: The stakeholder shall be able to select the font size and color palette for text.

Although these may just sound like complaints or issues, they bring to light a need that should be resolved. If they are within the scope of the project, a good analyst will see these as potential requirements. It is important to capture them, and then word them in such a way as to define what the system or process shall do to fulfill the need. All requirements should be validated with others who also perform the job, as well as the process owner or manager, to identify if the requirement is a necessity or just a wish list item.

Requirements, Assumptions, and Constraints

Assumptions and Constraints

Up until this point, we have identified details of the process, requested additional information from the stakeholders, and begun to identify their needs as requirements. But there is some additional information that must be identified before the design work can commence: assumptions and constraints.

Assumptions

> *Influencing factors that are believed to be true, but have not been confirmed to be accurate. Business assumptions are provided to the project team to inform them of key stakeholder expectations. Requirements assumptions are added by the business analyst to transfer business domain knowledge to the project team.*[7]

When little or no information is available, but the outcome is necessary to consider because of the impact to the project, the analyst must make an assumption. Some examples of assumptions are as follows:

- *All workstations in the company will support the updated version of the software.*
- *The existing agents will be able to handle the new call volume for the sales promotion.*

Unlike assumptions, constraints are usually fact-based and set limitations on the design. They should also be identified and documented prior to design work so that the solution will fit within the boundaries of the constraints.

Constraints

> *Business constraints describe limitations on the project's flexibility to adopt a desired solution. Technical constraints define architectural decisions, specify restrictions, and identify standards that must be adhered to.*

Constraints sometimes look and feel like non-functional requirements, and it is possible for them to crossover between the two areas. Some examples of business constraints are:

- *The new accounting system must be in compliance with the Sarbanes-Oxley Act 2002.*
- *The server's storage capacity for the database is limited to 200 Gb.*

Assumptions and constraints should be written down, so that they can be communicated to management, considered during design, and assessed as new information becomes available.

[7] **International Institute of Business Analysis (IIBA), Business Analysis Body of Knowledge (BABOK) release 2.0 © 2009**

Real World Application

- **User involvement is key** – Ask users what they need. Do not expect that their answers will make perfect requirements. It is up to the analyst to make them into requirements.
- **Validate** – Make sure that the users' needs are reflected by more than one person, and that they are essential for the system or process to be considered successful. One good way to validate a procedure is to observe it being performed.
- **Manage expectations** – Make notes about users' needs and requests, but do not promise anything. It might turn out that their suggestions are more wish lists than requirements and cannot be fulfilled in this phase of the project.
- **Manage the scope** – When collecting requirements make sure that they fit the project underway and don't lead to scope creep by adding things that are beyond the boundaries.
- **Documentation is critical** – Getting requirements written down and out of the brains of stakeholders and analysts is the first step to better design. Rewriting the initial requirements into quality statements that are specific, measurable, achievable, realistic, and traceable is important for clarification. Finally, the format of the requirements document is often less important than making sure that the requirements have been captured. Organization is helpful after all the requirements are in place.
- **Iteration and ongoing discovery** – Requirements are not a once-through and they are done. It often takes several attempts before quality requirements are fully identified and developed. It is important to patiently work through the process and know that the end result of several iterations will be a more successful project.