



Chapter 1: Process Modeling with BIZUIT

Business process management (BPM) is a key discipline for any organization that seeks to optimize its performance, aligning its activities with strategic objectives. Well-designed and managed business processes not only increase operational efficiency, but also improve collaboration between teams, foster adaptability to change, and promote more informed decision-making. In this chapter, we will explore the basis of business processes, their types, essential characteristics, and benefits, establishing a solid theoretical framework for their practical implementation.

In addition, we will introduce fundamental tools such as BPMN, BPMS, and RPA, which facilitate process modeling, automation, and monitoring. These technologies not only make it possible to represent workflows in a clear and standardized way, but also to transform manual activities into dynamic and efficient flows. With this knowledge, we will lay the foundation for documenting, analyzing, and improving organizational processes, preparing us for the challenges of modern business management.

Ideal Audience

This chapter is ideal for those who are interested in process modeling and business automation project management. It is especially recommended for:

1. Analysts and process managers.
2. Workflow designers.
3. BPM developers and consultants.

Objectives

1. Understand the fundamentals of business process management (BPM): Identify the key concepts of business processes, their types and characteristics, and their impact on organizational goals.
2. Model processes using standardized tools such as BPMN: Master BPMN graphic notation to represent clear, understandable, and standardized processes.
3. Explore automation capabilities with advanced tools: Learn how BIZUIT transforms manual processes into automated flows, optimizing operational efficiency.



Unit 1: Introduction to Business Process Management

Business processes are the operational core of any organization, a series of coordinated activities that generate products or services to meet needs or meet strategic objectives. An efficient process must have a logical sequence, a clear objective and measurable results, essential qualities to ensure its adaptability and effectiveness.

In this unit, we will explore the different types of processes (strategic, operational, and support) and their benefits, such as improved efficiency, cross-team collaboration, and better decision-making. In addition, we will learn about key tools such as:

- BPMN: To model processes in a clear and standardized way.
- BPMS: To automate and monitor processes in real time.
- RPA: To automate repetitive tasks, improving productivity.

This unit will lay the foundations for understanding process management, preparing you to tackle its documentation and modelling in the following stages. Start!

What is a Business Process?

A business process is a collection of interrelated activities that are executed in a specific sequence to produce a product or service intended to meet a customer's needs or meet an organizational goal. These processes constitute the operational essence of a company, since they allow resources, tasks and people to be coordinated to achieve business goals efficiently.

Characteristics of a Business Process

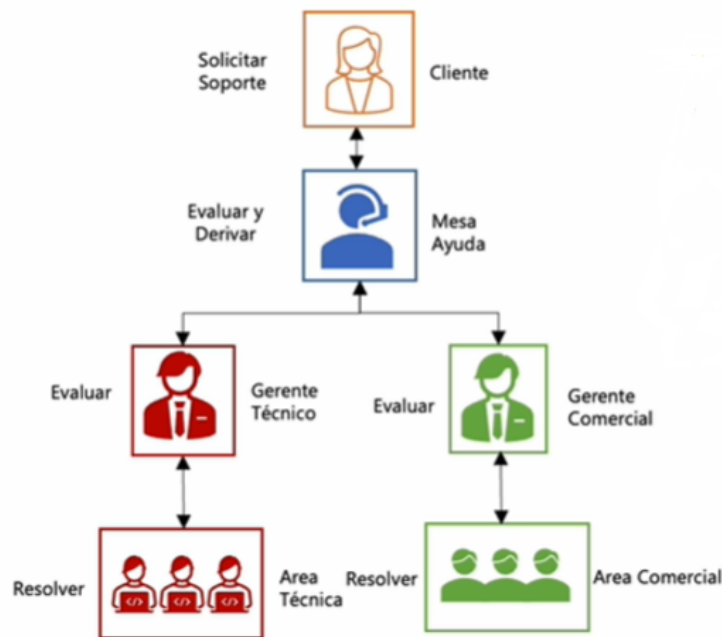
A well-defined business process must meet the following characteristics:

- Logical Sequence: Activities should be organized in a specific order, ensuring that each task is performed at the right time so that the flow of the process is efficient.
- Clear Objective: Each process must be oriented towards a defined objective, such as customer satisfaction, increased sales or the optimization of resources.
- Interconnection of Activities: The tasks within the process are linked to each other, and the result of one activity usually serves as an input for the next.
- Measurable Results: The success of the process must be able to be evaluated by metrics or key performance indicators (KPIs), such as execution time, associated costs or quality level.

Importance of a Structured Business Process

For a business process to be considered structured, it must possess the following qualities:

- **Clarity:** The sequence of activities should be easily understandable to everyone involved, avoiding ambiguities or unnecessary steps. This allows teams to work in an aligned and efficient manner.
- **Ease of Tracking:** A well-documented process makes it easy to monitor in real-time. This includes identifying what stage you are in, who is responsible for each task, and how long it takes to complete.
- **Identification of Bottlenecks:** The structure of the process must allow detecting points where delays, inefficiencies or errors occur. This is critical to implementing continuous improvements and ensuring that the flow is as smooth as possible.



Types of Business Processes

There are different types of processes depending on their purpose and level of importance within the organization:

- **Strategic Processes:** They are aimed at defining and meeting the general objectives of the company. Example: Planning expansion strategies.
- **Operational Processes:** These are the main processes that generate value for the customer. Example: Manufacture of a product or provision of a service.



- **Support Processes:** They facilitate the execution of operational processes, but do not generate value directly for the customer. Example: Human resource management or infrastructure maintenance.

Benefits of Managing Business Processes

Proper management of business processes provides numerous benefits for an organization, including:

- **Increased Efficiency:** By eliminating redundancies and optimizing the sequence of activities, the time and resources required to complete tasks are reduced.
- **Better Collaboration:** A clear and well-documented process encourages communication and teamwork, ensuring that everyone involved understands their roles and responsibilities.
- **Adaptability:** Well-structured processes are easier to adjust to changes in market needs or organizational objectives.
- **Better Decision-Making:** Having data and metrics on process performance allows leaders to make informed decisions to improve quality and efficiency.

In short, a business process is much more than a series of activities: it is the core that connects an organization's people, resources, and strategic goals. Its correct definition and management are essential to achieve success in a competitive and constantly changing environment.

Process and Tool Management

A business process is a collection of related and structured activities that, when executed in a specific sequence, produce a service or product for a customer, fulfilling a clear business objective. For a process to be efficient, it must be clear, easy to follow, and allow for the identification of bottlenecks. Business Process Management (BPM) is a management discipline that combines methodologies and technologies to improve the performance, efficiency, and optimization of processes within an organization.

Business Process Management, or BPM, is the discipline that seeks to optimize the efficiency of processes in organizations. We use tools such as BPMN diagrams to model activities and BPMS software to design, execute and monitor each stage of the process life cycle.



BPMN is a widely used standardized graphical notation in business process management. Its main purpose is to provide a clear, understandable, and consistent representation of the sequence of activities that make up a business process. In addition, it allows modeling the messages that flow between the different participants and the activities that are part of the process, thus promoting effective communication between work teams, analysts and developers. Thanks to its visual approach and standardization capabilities, BPMN becomes a key tool for documenting, analyzing, and improving processes in any type of organization.

On the other hand, the concept of BPMS is a software suite that allows organizations to manage, automate and optimize their business processes in a comprehensive way throughout their entire life cycle. Through a set of tools and functionalities, a BPMS facilitates not only the modelling and automation of processes, but also their monitoring and analysis to ensure that the company's strategic objectives are met. BPMS is based on the idea that business processes are a crucial asset for organizational success, and their proper management is essential to improve operational efficiency, reduce costs, ensure quality, and increase customer satisfaction. Key functionalities of a BPMS include:

Process modeling: It allows you to graphically represent business processes using standard notations such as BPMN, facilitating the understanding and analysis of workflows, interactions between participants and the decisions that must be made at each stage of the process.

Process automation: Automation not only improves operational efficiency, but also has a significant impact on reducing human error, speeding up operations, and freeing employees from repetitive and administrative tasks



In addition, we have advanced automation solutions such as RPA (Robotic Process Automation), a technology designed to use software robots that can perform repetitive tasks efficiently and accurately. RPA allows you to emulate and execute human actions in digital applications, such as data entry, transaction processing, reporting, or responding to emails, but it does so with superior speed and consistency, eliminating the risk of human error.

Benefits of RPA in Process Management:

- **Time Savings:** By automating routine tasks, employees can focus on activities of greater strategic value, such as decision-making, complex problem solving, and innovation.
- **Cost Reduction:** Automation allows more tasks to be performed in less time, resulting in a significant decrease in operational costs.
- **Increased Accuracy:** Software robots execute tasks without errors, ensuring consistent, high-quality results in every operation.
- **Scalability and Flexibility:** RPA can easily adjust to peak workload or expand to cover new processes without the need to increase staff.
- **Better Customer Experience:** By freeing up time for teams to focus on customer service and other critical aspects, RPA contributes to improved service quality and customer satisfaction.

Examples of RPA Application:

- **Invoice Processing:** Read data from electronic invoices and automatically record the information in the ERP system.
- **Request Management:** Automate the registration, verification, and tracking of customer requests.
- **Automated Reporting:** Generate and distribute financial, sales, or performance reports without manual intervention.
- **Data Validation:** Compare and verify information across multiple systems to detect inconsistencies.



Implementing RPA not only improves the efficiency of specific tasks, but also complements other broader automation initiatives, such as the use of BPMS (Business Process Management Systems) or the integration of artificial intelligence to optimize more complex processes. This positions companies at a higher competitive level, allowing them to quickly adapt to market demands.

In short, RPA not only frees human talent from tedious tasks, but also boosts the productivity, accuracy, and scalability of operations, becoming a strategic ally in the digital transformation of any organization.

Summary

In this first unit, we delve into the concept of business processes and their relevance to modern organizations. We understood that a business process is a series of interrelated activities that seek to achieve a clear objective, such as the production of a product or the provision of a service, and that their correct definition and management are essential for organizational success.

We explore the characteristics that define a well-structured process: logical sequence, clear objectives, interconnection of activities and measurable results, elements that ensure its efficiency and alignment with the company's strategic goals. We also highlight the importance of identifying and managing bottlenecks to maintain an agile and effective operational flow.

In addition, we address the types of processes (strategic, operational, and supportive), and their different purposes within an organization, as well as the key benefits of managing these processes appropriately. These include increased efficiency, better collaboration, adaptability to change, and more informed decision-making.

Finally, we were introduced to the essential tools and methodologies for process management, such as BPMN notation and BPMS systems. BPMN stood out for its ability to model processes in a visual and standardized way, while BPMS systems demonstrated their value by automating and optimizing each stage of a process's lifecycle, combining operational efficiency with continuous analysis. We also discuss how emerging technologies such as robotic process automation (RPA) are transforming the way companies operate, freeing human talent from repetitive tasks.



With this conceptual foundation, we are ready to move to the next level. In Unit 2: How to Document Business Processes, we will explore how to take a process from definition to clear, structured, and practical documentation. We will learn how to:

- Identify activities, roles and those responsible.
- Design functional screen layouts for interactive processes.
- Establish reports and KPIs that allow for continuous monitoring and improvement of performance.

We invite you to continue this journey and discover how effective documentation can transform process management, promoting clarity, collaboration and tangible results in your organization. See you in the next unit!



Unit 2: How to Document Business Processes

The correct implementation of a business process begins with a thorough survey and accurate documentation. These tasks are essential to understand in detail the activities involved, their interrelationships and the impact they have on organizational objectives. In this unit, we will focus on how to carry out these critical stages to ensure efficient, adaptable, and results-oriented execution.

The survey is not limited to identifying the individual activities of the process, but also covers the detection of dependencies, the allocation of necessary resources and the estimation of expected deadlines. This detailed analysis allows not only to describe the current state of the process, but also to visualize opportunities for improvement and optimization. Likewise, the definition of key performance indicators (KPIs) and the creation of adequate reports are essential tools to monitor progress and ensure that objectives are met in an agile and effective manner.

A key component of this unit is the documentation of the screens associated with each process activity. Beyond visual design, this stage involves making sure that the interfaces are intuitive, functional, and optimized to facilitate user interaction. We'll explore how to design clear, hierarchically organized layouts with agile navigation. We'll also discuss how to identify and document required, read-only, and role-custom fields, ensuring interfaces are secure and meet operational requirements.

In addition, we will review the importance of documenting the technical details of each screen, such as expected behaviors, validations, and associated business rules. This documentation acts as a bridge between business analysts and technical teams, ensuring that expectations and requirements are clearly defined and aligned.

In this unit, we will learn how to:

- Survey and analyze process activities, assigning those responsible and defining resources and deadlines.
- Document screens and design functional layouts that improve the user experience and optimize efficiency.
- Define KPIs and reports that allow monitoring and measuring the performance of the process in real time.



By the end of this unit, you will be prepared to approach process documentation as a strategic tool that facilitates the understanding, optimization, and execution of workflows in any type of organization. Let's start this journey towards clearer, more efficient and results-oriented process management!

Survey and Documentation

To implement a process efficiently, it is essential to carry out an exhaustive survey that provides a detailed analysis of each of the activities involved. This survey should be the starting point to understand the process in its entirety, from its beginning to its conclusion, allowing a comprehensive vision of its operation and its impact on organizational objectives.

Key elements of a process survey

- Identification of responsibilities: It is essential to determine who is responsible for initiating the process and who participates in the different stages. Not only does this define clear roles, but it also makes it easier to assign tasks and monitor individual and group performance.
- Precise description of the activities: Each activity that makes up the process must be documented in detail. This includes its purpose, the specific actions it entails, and the expected results. An accurate description avoids ambiguity and ensures that everyone involved has a common understanding.
- Interrelationship between activities: Activities do not occur in isolation. It is essential to map how they are connected to each other, what information flows between them and how these interdependencies contribute to achieving the objectives set. This analysis also helps identify potential redundancies or bottlenecks.
- Necessary resources: An efficient survey should include a list of the resources required to execute the process. This includes human, technological, financial and material resources. Evaluating these elements allows for better planning and ensuring the availability of what is necessary for implementation.
- Expected deadlines: It is crucial to establish estimated times for each task. Not only does this help plan the flow of the process, but it also allows you to identify critical tasks that could affect the overall timeframe if delayed.

Structured and understandable documentation

All the information collected in the survey must be reflected in clear, organized and accessible documentation. This documentation should be understandable to everyone involved, from implementers to decision-makers. Its main purpose is to serve as a guide to understand the current state of the process and facilitate the identification of opportunities for improvement.

Effective documentation:

- Standardize information and avoid misunderstandings.
- It serves as a base for training new team members.
- It provides a framework for future evaluations and adjustments.

Definition of key performance indicators (KPIs) and reports

A critical aspect of the survey is the definition of KPIs and the creation of reports that allow monitoring the progress and effectiveness of the process in real time. KPIs should be specific, measurable, achievable, relevant, and time-bound (SMART).

For example:

- Average time to completion KPI: Allows you to identify delays and optimize resource allocation.
- Goal Fulfillment KPI: Measures what percentage of the total goal has been achieved within a specific period.

In addition, reports should provide a clear and up-to-date view of process performance, highlighting potential problem areas and suggesting corrective actions. These reports can include graphs, charts, and key metrics that simplify analysis and decision-making.



Documentation of the Screens Associated with the Process

Displays are the point of interaction between users and the system, and their design and documentation are crucial to ensuring a smooth and efficient experience. This aspect goes beyond visual design, encompassing functionality, usability, and workflow optimization.

Creating Layouts:

Layouts are visual representations of screens, and must comply with the following principles:

- Hierarchical structure: Organize the elements in order of importance and frequency of use, placing the most relevant in strategic and accessible places.
- Usability: Design simple and straightforward screens, minimizing unnecessary steps and facilitating agile navigation.
- Definition of fields: Clearly identify:
 - Required fields: Required to complete the activity.
 - Read-only fields: Data visualization without the possibility of editing.
 - Visible fields according to roles: Customization for different user profiles, ensuring security and privacy.



Technical Details Specification:

Each screen must include technical documentation that facilitates its development and validation. This includes:

- Functional description of each element: Fields, buttons, links, and their purpose.
- Expected behaviors: Validations, dynamic interactions, and dependent flows.
- Business rules: Associated with each element or set of elements.



Benefits of a comprehensive survey

A well-conducted survey allows:

- Detect inefficiencies: Identify redundant or unnecessary tasks.
- Optimize resources: Ensure that each resource is used efficiently.
- Facilitate collaboration: Improve communication between the teams involved.
- Promote continuous improvement: Provide valuable information for future adjustments and optimizations.

Documentation should act as a bridge between business analysts and developers, ensuring that expectations are aligned and requirements are clear. In summary, the survey and documentation are not only initial steps, but fundamental pillars for the implementation of an efficient and adaptable process, which can evolve and respond to the changing needs of the organization.

Summary

In this unit, we delve into the fundamental aspects of business process survey and documentation, essential pillars for implementing efficient and results-oriented workflows. We learned that an exhaustive survey not only identifies the individual activities of a process, but also analyzes its dependencies, necessary resources and expected deadlines, providing a comprehensive view of it.

We highlight the importance of structured and understandable documentation, which acts as a clear guide for both operational teams and decision-makers. This documentation allows you to standardize information, train new members, and establish a solid framework for future adjustments and optimizations.

A highlight of the unit was the documentation of screens associated with the process, where we explored how to design functional and intuitive layouts that improve the user experience. We also address the specification of technical details, such as validations, business rules and expected behaviors, that facilitate the development and validation of interfaces.

In addition, we saw how the definition of KPIs and reports allows you to monitor the performance of the process in real time, providing valuable information to identify areas for improvement, make informed decisions and ensure that objectives are met efficiently.



With the solid foundations of the survey and documentation, we are ready to delve into a key tool for modeling processes: BPMN (Business Process Model and Notation). In the next unit, we will learn how this standardized graphical notation allows us to represent business processes clearly and consistently, facilitating communication between teams and improving understanding of workflows.

We invite you to continue in Unit 3, where you will discover how to transform your knowledge into visual models that will take process management to a new level!

Unit 3: Introduction to BPMN

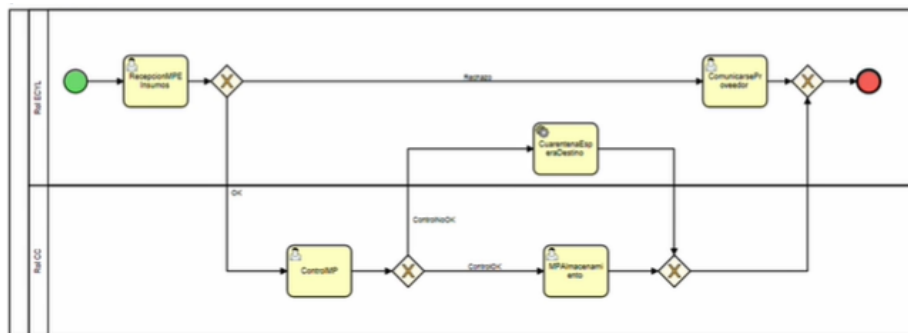
In this unit we will explore BPMN (Business Process Model and Notation), a standardized graphical tool that facilitates the design and communication of business processes. BPMN acts as a bridge between analysts, technicians and managers, allowing to represent from simple flows to complex processes in a clear and understandable way.

We'll learn its main elements: flow objects, connecting objects, swim lanes, and artifacts, and how to use them to model efficient, easy-to-interpret processes. In addition, we will see how BPMN improves cross-area collaboration and helps identify opportunities for optimization.

With BPMN, you'll be prepared to design processes that connect conceptual design with its technical implementation effectively. Start!

What is BPMN?

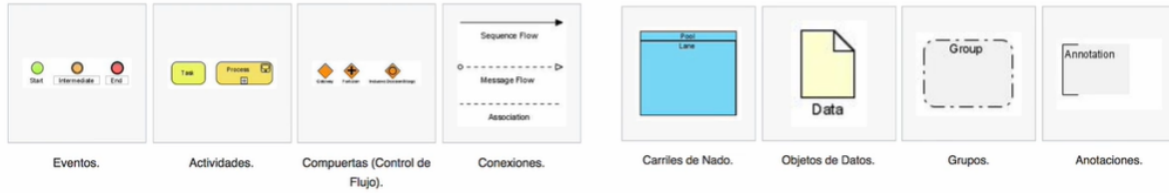
BPMN was created by the Business Process Management Initiative and is currently managed by the Object Management Group. Its objective is to provide a common language between business analysts, technical developers and managers, facilitating communication between the design and implementation of processes.



BPMN Basics

BPMN is based on four main categories:

- Flow objects, such as events, activities, and gates.
- Connecting objects, such as streams and messages.
- Swimming lanes, which group activities according to roles or areas.
- Artifacts, which add additional information to the diagram.



These elements allow processes to be diagrammed in a clear and understandable way.

Flow Objects

Events

In BPMN notation, events are fundamental elements that mark key points within the flow of a process. They can indicate its beginning, situations that occur during its development or its end. Events allow you to clearly and visually represent critical moments that affect the flow of the process. There are three main types of events, each with specific characteristics and graphical representations:

Initial Event: Acts as a trigger for a process. It is represented graphically by a thin line circle filled with green.



Final Event: Indicates the end of a process. It is represented by a circle of thick line filled with red.



Intermediate Event: Indicates that something happens between the initial event and the final event. It is represented by a single double-lined circle filled with orange.



Activities

Activities represent the tasks or jobs that are performed within a process. These are divided into two main types:

Tasks: Represent a single unit of work that is not or cannot be broken down to a higher level of detail from business processes without diagramming the steps of a procedure. The tasks can be of three types:

- **System Tasks:** They are performed in an automated manner, such as querying a database or integrating with an external system.
- **Manual Tasks:** They require the intervention of a user but are not managed within the BPM system, such as a paper signature.
- **User Tasks:** These involve direct interaction of a person through the system, such as filling out a form or approving a request.



Thread: Used to hide or show other levels of detail in business processes. When a thread is minimized, it is indicated by a plus sign against the bottom line of the rectangle, when the rounded rectangle is expanded it allows all flow objects, connecting objects, and artifacts to be displayed.



Gates:

Gates are decision elements that control how the process flows according to different conditions or criteria. They are essential to manage the logic of a process, allowing flows to be divided or joined depending on the defined rules.

Exclusive Gates: They determine a single path to follow among several possible ones.



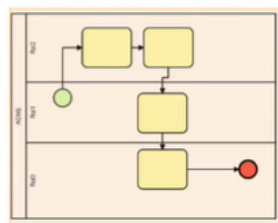
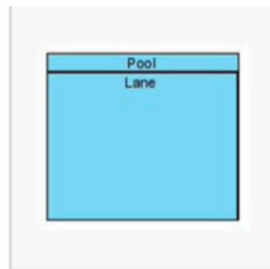
Parallel Gates: They allow the simultaneous execution of multiple flows.



Lanes

Swim lanes are fundamental elements in BPMN diagrams, as they allow activities to be organized and categorized according to areas of responsibility within an organization. They can represent specific departments, teams, roles, or even external systems involved in the process. These lanes work in a similar way to a swimming pool, dividing the diagram into "lanes" (lines or stripes) that make it easier to identify who is responsible for what activity within the workflow.

For example: In a sales process, one lane may represent the marketing team, another the sales team, and a third the logistics area. In this way, it is clearly visualized how these roles interact in the different stages of the process. In more complex processes, lanes can also include automated systems, such as a CRM or database, highlighting the interactions between people and technology. The proper use of swim lanes improves process understanding, promotes clarity in communication between departments, and allows for easy identification of potential bottlenecks or redundancies in the flow.



Artifacts

In addition to basic elements such as activities, events, and gates, BPMN includes artifacts that enrich the diagram by adding context and important details. Artifacts do not directly affect the execution of the process, but they are crucial to its documentation and understanding. Some of the most common are:

Data objects:

They represent the information that is generated, used or transformed during the process. They can include documents, records, or digital data. Data objects are linked to specific activities and help understand what information flows throughout the process.



Groups:

They are used to group related activities within a process, even if they are not necessarily connected by a direct flow. Groups allow you to highlight sets of activities that share a purpose or goal, making it easier to organize the diagram. Example: A group might group all activities related to the approval of a loan.



Annotations:

They are textual elements that provide additional information about the activities, events or flows of the process. They help clarify intentions, explain decisions, or document relevant details that are not directly reflected in the elements of the diagram. Example: An annotation can specify that an activity requires the approval of a manager.





BPMN is a key tool for modeling and communicating business processes effectively, thanks to its standardized graphical notation. With its main categories such as flow objects, gates, connection objects, swim lanes and artifacts, it allows representing from simple tasks to complex threads, providing clarity and alignment between analysts, developers and managers. By integrating roles, data, and activities, BPMN consolidates itself as a bridge between conceptual design and technical implementation of processes.

Summary

In this unit, we explore the fundamentals of BPMN (Business Process Model and Notation), a key tool for modeling business processes in a clear and standardized way. We learned that BPMN acts as a bridge between analysts, technicians, and managers, facilitating communication and alignment in process design and management.

We review the main elements of BPMN:

- Flow objects: Events, activities and gates, which structure the process.
- Connecting objects: Representing how activities and information flow.
- Swimming lanes: Which organize the activities according to roles or areas responsible.
- Artifacts: That enrich the diagrams with additional contextual information.

These components allow us to visualize processes from simple tasks to complex flows, identify opportunities for improvement, and optimize communication between teams.

Now that we know how to model processes with BPMN, it's time to put those models into practice. In Unit 4, we will learn how to transform these diagrams into automatable flows using BIZUIT, a platform that allows processes to be executed and monitored in real time. We'll explore how to map BPMN activities to automated tasks and how to integrate data and roles to achieve efficient automation.

Join us in this next stage to turn your designs into functional and automated solutions!



Unit 4: BPMN Model and Workflow Model in BIZUIT

In this unit we will see the concept of transforming the BPMN model to an automatable model in BIZUIT, using Workflow Foundation. Windows Workflow Foundation is a technology developed by Microsoft to build workflow-based applications and enables you to model, automate, and manage complex business processes using flowcharts. The type of diagram used in BIZUIT is known as a flowchart.

In this type of diagram, the process activities are represented in the form of rectangular blocks and the connections between them show the workflow that the application follows. These diagrams usually have a visual structure similar to traditional flowcharts. The three categories of activities, unlike BPMN, where we only have two, are:

General Activities:

In the BIZUIT environment, general activities are key components that allow you to model and execute business processes with a high degree of flexibility and accuracy. These activities fall into three main categories: User, System, and Data Transformation, each designed to address different needs in the execution of workflows.

User Activities

User activities are those that require direct interaction from a person to complete. These interactions are critical for tasks that cannot be fully automated and rely on human decisions or the input of specific information. In BIZUIT, they are divided into two main types:

- **User Interaction:** This activity is designed for users to interact with the system directly. It includes tasks such as:
 - Fill out forms.
 - Review and approve documents.
 - Perform actions that require operator validation.These activities are highly configurable, allowing interfaces to be customized so that users work efficiently and user-friendly.
- **Grouping:** This activity allows you to consolidate multiple individual tasks into a single activity assigned to a user or group. It is useful in cases where you need to manage several related actions as part of the same operational context. For example:
 - Group different validation steps into a single task.
 - Organize recurring activities under a single access point to simplify the user experience.



These activities encourage clarity and organization within the workflow, ensuring that tasks are assigned and executed correctly.

System Activities

System activities are fully automated and require no human intervention. These are essential for integrating systems, handling data and executing repetitive tasks with high precision. Some of its most common applications include:

- Web service invocation: They allow you to consume REST or SOAP services to interact with external applications, such as ERPs or CRMs, and send or receive data in real time.
- Querying and updating databases: These activities allow you to execute SQL statements directly on databases integrated into the system. For example:
 - Consult data to prefill forms.
 - Update order or transaction statuses automatically.
- Connection to TCP Servers: Facilitates communication with servers through the TCP protocol, allowing data to be sent and received in real time. Ideal for integrating legacy systems, IoT devices, or any TCP server that handles critical data.
- FTP (File Transfer Protocol): Automates the transfer of files between local and remote servers, supporting functionalities such as:
 - Uploading and downloading files.
 - Integrity validation through automatic checks.
 - Folder management to order and process files according to specific needs.
- File Management: Includes activities for:
 - Create, read, edit, and delete files.
 - Process batches of data stored in text, CSV, or XML files.
 - Monitor directories to detect changes and trigger specific actions based on events.
- Zip/Unzip: Allows you to automatically compress or unzip files as part of a workflow. Useful for:
 - Optimize the sending of large volumes of data.
 - Unzip files received by FTP or email before processing.
- Script execution: Custom scripts can be integrated to perform specific operations, such as complex calculations or data transformations that are not covered by standard activities.
- Assembly tasks: They facilitate the execution of externally developed libraries and components, expanding the capabilities of the system and allowing specific adaptations according to business needs.

These activities are ideal for processes that require high transaction volume or complex integrations with other systems.

Data Transformation Activities

Data transformation is an essential category for processes that handle large amounts of information or that need to convert data from one format to another before being used in subsequent tasks. This type of activity is crucial to maintaining data integrity and consistency throughout the workflow. Key features include:

- **Format conversion:** Allows data to be transformed between formats such as JSON, XML, HL7, or CSV to ensure compatibility between systems.
- **Data mapping:** Relates input data to output structures, ensuring that information is interpreted correctly when moving between systems.
- **Data validation:** Verify that data complies with predefined rules or formats before being processed. For example:
 - Verify that a required field is complete.
 - Validate specific ranges or values.
- **Data Enrichment:** Combines data from multiple sources to create more comprehensive and useful sets of information. For example, adding customer information from different systems before generating a report.

These activities ensure that data quality is consistent throughout the process, avoiding errors and facilitating decision-making.





Key Benefits of General Activities at BIZUIT

- **Complete Integration:** With support for Web service calls, REST APIs, connection to Database and TCP or FTP servers and advanced file management, BIZUIT allows you to connect internal and external systems seamlessly, eliminating technical barriers.
- **Advanced Automation:** Zip/Unzip and file handling activities simplify complex flows involving large volumes of data, ensuring efficiency and speed.
- **Flexibility in Configuration:** Each activity can be customized to suit specific process requirements, ensuring alignment with business objectives.
- **Reliability and Security:** Features such as FTP integrity validations and rich data handling ensure that flows are consistent, reliable, and protected from errors.

The overall activities at BIZUIT encompass a full spectrum of functionalities designed to address both human interaction needs and more technical integrations and automations. By including capabilities such as connecting to TCP servers, file handling, FTP transfers, and compressed file processing, BIZUIT ensures that workflows are not only robust and efficient, but also highly adaptable to dynamic business environments. These advanced tools position BIZUIT as a comprehensive platform for business process management and automation.

Flow Control Activities:

Flow control activities are essential to ensure that a business process follows a structured and dynamic logic, adapting to the defined conditions and rules. These activities determine how the workflow moves between tasks and how decisions, wait times, and interactions between components are managed. In BIZUIT, these activities are implemented to provide flexibility and accuracy in process execution.

- **Branching:** Branching introduces decisions into the workflow, allowing the workflow to be broken up into alternate paths based on certain conditions or rules. It is crucial for:
 - **Make decisions based on data or predefined criteria:** For example, redirecting a customer case to a specific support area based on its category.
 - **Manage conditional flows:** How to approve or reject a request depending on requirements validation.
 - **Enable advanced logic:** Implementing multiple conditions to handle different scenarios within the same flow.
- **Iteration:** Iteration allows you to repeat an activity or set of activities within a workflow, based on specific conditions. It is ideal for:
 - **Controlled repetitive processes:** Such as reviewing an application several times until the established criteria are met.
 - **Optimize iterative flows:** Performing recurring tasks in a controlled and efficient manner.



- Avoid blockages in complex processes: Allowing you to iterate until a desired result is achieved.
- Repeat: Similar to iteration, but with a focus on full cycles, the repeating activity executes a workflow or set of activities multiple times. This is especially useful when:
 - Data needs to be processed in batches: For example, performing calculations for multiple records in a database.
 - Tests or validations: Like running a set of automatic tests on a system until all of them are successful.
 - A flow dependent on external events is managed: Repeating activities until the necessary information or response is received.
- Parallelism: Parallelism allows for the simultaneous execution of multiple tasks or activities within a process. This activity is especially valuable for:
 - Divide the flow into separate tasks: For example, perform technical validations and legal reviews at the same time.
 - Optimize time: Reducing the total duration of a process by executing non-dependent tasks in parallel.
 - Manage resources efficiently: Assigning parallel tasks to different teams or systems.
- Sending and Receiving Messages: These activities allow communication between different systems or processes, ensuring a smooth integration. Common applications include:
 - Send data to external systems: How to notify a CRM about a change in a customer's status.
 - Receive information from external services: For example, identity validation data or transaction confirmations.
 - Facilitate integration between internal processes: Communicating tasks between different workflows within BIZUIT.
- Completion: The completion activity marks the conclusion of the workflow.
- Delay: The delay activity introduces an intentional pause in the workflow for a specific amount of time. It is useful in scenarios where it is necessary to:
 - Wait for a fixed period of time: For example, delaying a follow-up notification to a customer after an initial request.
 - Synchronize activities: Ensure that certain tasks do not run until a set time has elapsed.
 - Comply with regulatory or business requirements: Such as waiting periods in financial or legal processes.
- Sequence: The sequence activity establishes the order in which tasks are executed within a workflow and allows granular error handling to be applied to a set of activities contained in the sequence
- Expiration Control: Expiration control introduces the ability to manage time limits within a flow. When a process exceeds a defined time, an alternate or secondary flow is executed. Applications include:

- Timeout management: For example, marking a case as "pending escalation" if it is not responded to within 24 hours.
- Automatic Redirection: Trigger a contingency flow if a task is not completed on time.
- Alerts and escalations: Notify a supervisor or management system when a critical deadline expires.
- Dynamic monitoring: Adapt the flow according to the established times, avoiding blockages or prolonged delays.



Benefits of Flow Control Activities at BIZUIT

Flow control activities in BIZUIT provide the flexibility and structure needed to manage complex business processes efficiently. These tools not only optimize task execution, but also ensure that flows dynamically adapt to environmental conditions. Some of the main benefits include:

- Runtime optimization: By enabling parallelism and logical sequences, processes can be completed faster and with fewer resources.
- Operational flexibility: The ability to manage branches, iterations, and repetition allows flows to be adapted to a wide variety of business scenarios and needs.
- Advanced management of asynchronous processes: Activities such as waiting and sending/receiving messages ensure that flows can interact with external systems and handle variable response times.
- Process standardization: The use of control activities ensures a coherent and legible structure, facilitating maintenance and collaboration between teams.
- Reduced human error: By automating flow control logic, the risks associated with manual decisions or misinterpretations are minimized.
- Improved monitoring capability: With activities such as completion and expiration control, the status and compliance of flows can be effectively monitored, ensuring that they remain aligned with operational objectives.



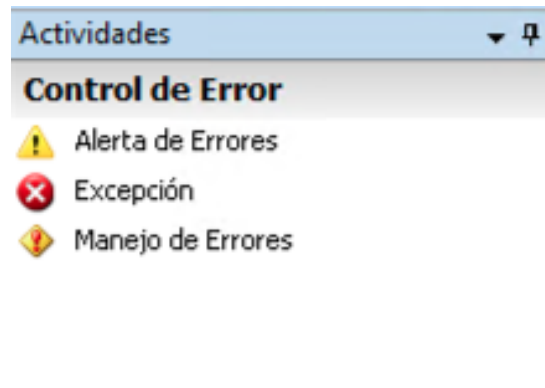
Flow control activities at BIZUIT are essential to design robust, flexible processes aligned with business needs. From sequential tasks to complex parallels and condition-based branches, these tools allow organizations to model workflows that not only reflect their current operations, but also adapt to future demands. These activities ensure that each process is efficient, scalable, and fully integrated with your environment.

Error Control Activities:

Error control activities in BIZUIT are essential to ensure the stability and reliability of business processes, especially in environments where the complexity of operations can lead to failures or inconsistencies. These activities allow you to properly manage, notify and respond to unexpected events, ensuring that the workflow continues in a controlled manner or that the necessary corrective actions are taken.

- **Error Handling:** Error handling focuses on capturing and managing failures during the execution of the process, preventing them from interrupting the workflow. It allows control points to be set up in flows, ensuring that appropriate measures are taken in the face of unforeseen conditions, while maintaining the integrity of the process. It is a key tool for:
 - Detect specific failures: Such as validation errors, failures in connections to databases or unexpected responses from external services.
 - Implement corrective logic: For example, attempting a reconnection to a service, looking for a default, or retrying an operation after a short interval.
 - Avoid complete interruptions: Redirecting the flow to alternative paths or recovery procedures.
- **Error Alerting:** Error alerting is critical to quickly notifying the right decision-makers about issues that require attention. Key features include:
 - Automatic notification generation: Send messages via email, SMS, or in-system notifications to report a specific failure.
 - Escalation of issues: If an error persists or is not fixed within a certain time, the alert can be redirected to higher levels, such as supervisors or administrators.
 - Message customization: Detailing the nature of the error, its location in the flow and suggestions for its resolution. Example: In an integration process with an external system, if an API does not respond, BIZUIT can automatically generate an alert that informs the technical team, specifying the affected endpoint and the time of the failure.
- **Exception:** Exception handling in BIZUIT addresses situations where an unexpected event occurs that cannot be handled by normal flows. Exceptions are advanced tools for:

- Safely stop processes: Ensuring that critical operations are not compromised by unforeseen outcomes.
- Redirect flow to exception paths: Specifically designed to handle contingencies, such as performing additional validations or escalating the issue.
- Log detailed information: Each exception generates a log in the system, including event details, context, and possible causes.



Benefits of Error Control in BIZUIT

Error control activities not only ensure operational continuity, but also provide advanced tools for continuous improvement and prevention of future problems. Some of the main benefits include:

- Reduced downtime: Allowing processes to dynamically adapt to errors without stopping completely.
- Increased visibility: Through detailed logs and real-time alerts that make it easier to identify and resolve issues.
- Response automation: Reducing reliance on manual intervention and speeding up disaster recovery.
- Improving system reliability: Minimizing the risks associated with unexpected errors.

BIZUIT's approach to error control ensures that business processes are resilient and prepared to handle any contingency. With tools such as error handling, error alerting, and exception handling, the platform not only ensures operational continuity, but also improves responsiveness and confidence in automated flows. These activities strengthen the structure of processes, making organizations more agile and prepared to face operational challenges in real time.



Automatic Mapping Between BPMN Model and BIZUIT Process

In this stage, we will explore how BIZUIT takes process management to the next level by automatically transforming BPMN (Business Process Model and Notation) models into fully functional workflows. This capability eliminates the need for manual translations and ensures that designed processes are implemented accurately and efficiently within the platform.

Transformation Automation with BIZUIT

BIZUIT automatically interprets BPMN diagrams and converts them into processes within your system, simplifying the transition from conceptual design to practical execution. Each element of the BPMN model, such as activities, gates, and events, is directly translated into functional components of BIZUIT. For example:

- A dedicated gate in BPMN is automatically transformed into a branching activity that defines a single path based on predefined conditions.
- A parallel gate becomes an activity that allows the simultaneous execution of multiple tasks.

This automation not only speeds up deployment, but also ensures fidelity between the model and its execution, reducing potential misinterpretation.

Classification of Activities and their Transformation

In BPMN, activities fall into two broad categories:

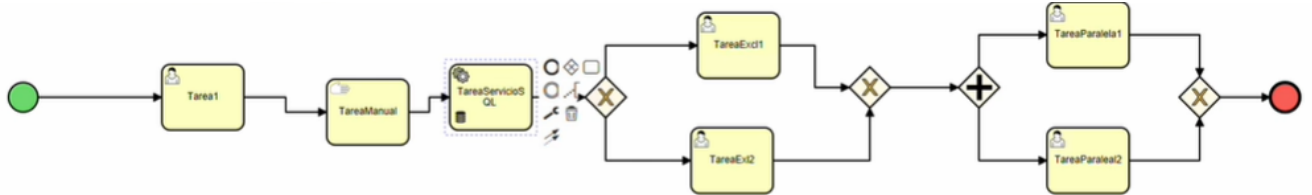
- **User activities:** These require manual intervention and are represented in BIZUIT as user interaction tasks, such as approving requests or entering data. Example: A user task in BPMN that involves filling out a form is automatically converted to a User Interaction in BIZUIT.
- **System activities:** These are automated tasks that do not require manual interaction, such as running scripts, integrating with databases, or sending messages to external services. Example: An activity that performs a query to a database in BPMN is translated into a SQL Statement Task in BIZUIT.

BIZUIT automatically adjusts each activity to its most suitable equivalent within the platform, ensuring that the process is functional and that it respects the specifications of the original model.

Transformation of a BPMN Model into a BIZUIT Process

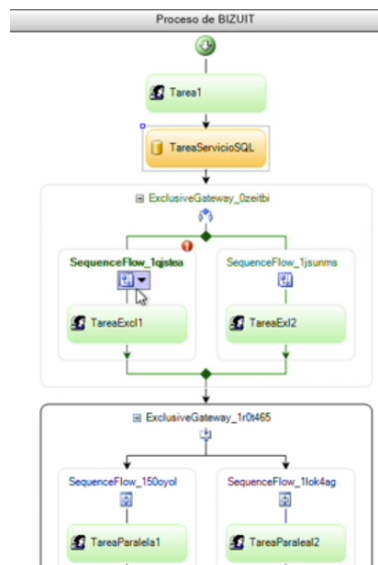
Let's suppose we design a process in BPMN with the following elements:

- Start event: Represents the starting point of the process.
- Exclusive tasks: Conditional tasks that are executed according to certain rules.
- Parallel tasks: Tasks that must be executed simultaneously.
- End event: Marks the conclusion of the process.



If this model is uploaded to BIZUIT, the platform automatically transforms it into a functional workflow:

- Exclusive Task 1 becomes a user interaction.
- The Service Task is transformed into an automated service activity.
- Exclusive and parallel gates are configured as bifurcations and parallelisms in the flow, respectively.



This process is managed entirely by BIZUIT, reducing technical complexity and allowing teams to focus on flow design and optimization.



Flexibility in Process Triggers

BIZUIT also offers options for defining how an automated process is initiated. From the BPMN designer, triggers can be configured such as:

- Channels: External events that trigger the process.
- Timers: Scheduled executions.
- Forms: Initial manual interactions.

In addition, it is possible to edit forms, define variables, and create parameters directly from the designer, making it easy to customize the data flow and ensuring its alignment with business requirements.

Advantages of Automatic Integration between BPMN and BIZUIT

- Time Savings: Mapping automation eliminates the need for extensive manual configurations.
- Fidelity in Implementation: It ensures that the workflow respects the original design.
- Continuous Optimization: Integration allows bottlenecks to be identified and resolved faster.
- Ease of Use: Business analysts can focus on design without worrying about technical implementation.

BIZUIT automatically transforms BPMN models into functional workflows, bridging the gap between conceptual design and technical execution. This approach not only accelerates the implementation of processes, but also ensures consistency, accuracy, and adaptability, positioning itself as an indispensable tool for business automation.

Summary

In this unit, we explore how BIZUIT revolutionizes process management by automatically transforming BPMN diagrams into functional workflows. This approach eliminates the need for manual translations, ensuring an efficient and accurate implementation that respects the conceptual design of the original model.

We learned that BPMN models can include user and system activities, events, gates, and complex tasks. Thanks to BIZUIT's automation, each element is automatically translated into functional components of a workflow. For example:

- User activities become tasks of direct interaction with the system.
- Exclusive gates are transformed into logical forks.
- Parallel gates are represented as tasks executed simultaneously.



We also saw how BIZUIT offers flexibility when setting up process triggers, such as channels, timers, and forms, making it easy to customize and align the flow with business needs. All of this allows teams to focus on process design and optimization, leaving the technical complexity to the platform.

Now that we understand how BIZUIT automates the transformation of BPMN models into functional workflows, it's time to dig deeper into its implementation. In future chapters, we'll explore how to integrate these automated flows with external systems and optimize their performance by incorporating advanced metrics and tools.



Chapter Summary and Closing

In this chapter, we have laid the foundations for understanding and managing business processes in a structured and efficient way, highlighting tools, methodologies and technologies that enhance their design, documentation and automation.

Business Processes: Definition and Rationale

We start by defining business processes as the operational core of any organization. We highlight their essential characteristics—logical sequence, clear goals, and measurable results—and the benefits they bring to modern organizations, such as improved efficiency, collaboration, and data-driven decision-making.

Survey and Documentation: Fundamental Pillars

Survey and documentation were addressed as critical steps for success in the implementation of processes. Identifying activities, roles, dependencies, resources, and timelines is essential to structuring clear and streamlined flows. In addition, well-structured documentation acts as a guide for training, continuous evaluation, and performance improvement.

The importance of designing clear and functional interfaces through layouts that improve the user experience and ensure efficiency in the execution of activities was also explored.

BPMN: Clear and Standard Modeling

A key component of the chapter was learning about BPMN (Business Process Model and Notation), a standardized graphical tool that allows business processes to be represented in a clear, understandable and consistent way. With BPMN:

- We learned how to model fundamental elements such as events, activities, gates, and swim lanes.
- We identified how this tool acts as a bridge between analysts, developers and managers, improving communication and facilitating technical implementation.
- We highlight how artifacts enrich models, adding context and clarity to flows.



BIZUIT and Process Automation Activities

In this chapter we also explore the potential of BIZUIT as a platform to automate and manage processes through activities structured in key categories:

- **General Activities:** Include user tasks, automated system tasks, and data transformation. These activities allow, among other things:
 - Manage human interactions (forms, approvals, task grouping).
 - Integrate external systems using web services, REST API calls, SQL queries, TCP server connections, or FTP pass-through.
 - Process and transform data into various formats such as JSON, XML, TXT, HL7 or CSV.
- **Flow Control Activities:** They ensure that processes follow a clear and dynamic logic. They include branching, iteration, parallelism, expiration control, and message sending, which ensure flexibility, efficiency, and adaptability to changing conditions.
- **Error Control Activities:** These activities strengthen the resilience of the system, allowing errors to be managed, alerts to be sent and exceptions to be handled proactively, ensuring operational continuity and workflow reliability.

Automatic Mapping of BPMN Models to BIZUIT Processes

A highlight of the chapter was BIZUIT's ability to automatically transform BPMN models into functional workflows. This eliminates the complexity of manual translations, maintaining fidelity to the conceptual design and ensuring accurate and fast implementations. From user activities to dedicated or parallel gates, each component of BPMN finds its functional equivalent on the platform, simplifying automation.

By the end of this chapter, it is clear that managing business processes with tools such as BIZUIT not only improves operational efficiency, but also allows:

- Standardize flows to facilitate collaboration and maintenance.
- Reduce errors and downtime through automated activities and error control.
- Implement scalable, adaptable processes aligned with business needs.
- Ensure smooth integration with external systems and advanced data handling.

With a solid understanding of process management, documentation, and automation, it's time to dive into the capabilities of BIZUIT Designer, the key tool for transforming ideas into automated flows. In the next chapter, we'll explore how to model processes in BPMN, design



interactive forms, set up advanced activities like branching and notifications, and prepare data models to integrate into the system.

In addition, we will learn how to:

- Document and publish processes on the BIZUIT server.
- Use the catalog to centralize and efficiently manage the processes created.
- Optimize manual processes through automation, improving operational efficiency and aligning them with organizational objectives.

This chapter will give you the practical tools to take your processes to the next level, implementing automated solutions that boost your organization's productivity and performance. We look forward to seeing you continue to maximize the potential of BIZUIT!