The Process1st Business Process Modeling Framework

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Introduction

The Process1st Business Process Modeling Framework is a set of documents that when considered as a whole, provides a thorough, complete, accurate, and precise explanation of a business processes. It's developed over time and is proven to do the job well.

The purpose of a collection of business process documents is:

- To provide a multi-dimensional view of business process details.
- To provide context and different perspectives of a process.
- To provide a wide range of business process stakeholders with documents and tools to help them more thoroughly understand the process, perform their process role tasks, and fulfill their responsibilities.
- To provide a cross-checking mechanism to help ensure the correctness, accuracy, precision, consistency, and credibility of process information.

Input/Reference Documents

The portfolio includes "input/reference documents" and information. These are documents produced outside/before modeling begins.

- Strategic Plan
- Business Requirements Document(s)
- Business Policies
- Standard Operating Procedures (SOPs)

Primary Documents

- The Enterprise Business Process Catalog
- Business Process Map(s)
- Process Definition Document
- The Logical Business Data Dictionary
- Process Language Glossary
- The Business Rules List
- DMN Decision Models
- CMMN Case Models
- KPIs List
- Roles and Responsibilities RACI
- Business Events and Triggers List
- Business Process Language Glossary
- Data Flow Diagrams
- Business Events and Triggers List

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- **Enterprise Business Process Catalog**

  The Enterprise Business Process Catalog (EBPC) is a hierarchical classification list of the organization's business processes. It is modeled after the APQC's Process Classification Framework.

  The PCF is "organized into 12 distinct categories, including five categories of operating areas and seven categories of support areas. Each category contains groups of processes and activities that, when considered as a whole, represent the operations of an organization.[1] The PCF's five categories of operating areas and seven support areas closely match other process operating/support constructs such as Porter's Value Chain[2], or the Value Chain Group's more detailed Value Reference Model[3].

  This is the FIRST document to start.

- **Business Process Map(s)**

  The Business Process Map serves as the foundational document in the Process1st Business Process Modeling Framework. The first stage of the business process modeling approach is to create business process maps using the BPMN diagramming language. All of the information contained in the other documents within the Process1st Business Process Modeling Framework can be derived primarily from the process maps, both during and after the process mapping efforts.

- **Process Definition Document**

  The Process Definition Document (PDD) includes specific sections such as:

  - Definition and Purpose of the Process
  - Process Goal and Objectives
  - Inputs and Outputs
  - Resources (Capital, Equipment, and Human)
  - Process Roles and Responsibilities
  - Imitating Business Events (Process "Triggers")
  - Process Sequence (Process Narrative)
  - Process Rules (Business Rules)
  - Process Measurements
  - Process Controls
  - High-Level Process Diagram
  - Validation (Process Owner and Stakeholder Acknowledgement and Agreement)
  - Process Issues and Risks
  - Outstanding Questions and Issues (with detailed Action Items and Statuses)

  Most of the time, this is an "all or nothing" document. The extent of detail in this document covers a lot of significant information about both the design and the management and control of a process. On projects requiring only a minimum amount of documentation, the PDD and a procedural-level BPMN flowchart might be the only two types of documentation we deliver.

[1] From: http://www.apqc.org/process-classification-framework
[2] http://en.wikipedia.org/wiki/Value_chain
[3] http://www.value-chain.org/framework/value-reference-model

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- **Logical Business Data Dictionary**

  The Logical Business Data Dictionary (LBDD) is a multi-tab spreadsheet workbook consisting of all of the data objects and associated elements found in a process flow. There can be one LBDD for an individual process and one LBDD for the entire organization. All of the individual LBDD's roll up to the enterprise-level LBDD. The LBDD is often referenced by software designers and developers when process modeling/documentation projects are sub-projects of larger, software development and implementation projects.

- **The Business Rules List**

  The Business Rules list is a spreadsheet used to define relationships between objects participating in processes. It simply helps answer the question of, "For each, individual Object A, how many Object B's can there be?" Defining these relationships is another way of defining the rules for how the objects participate in a process. The Business Rules List is the detailed support data of the process rules section of the Process Definition Document. The "none-one-many" (0, 1, M) notation used in each cell of the Business Rules List directly translates to the more conversational syntax of the business rules statements in the Process Definition Document.

- **DMN Decision Models**

  A large percentage of processes involve decision tasks. And in many situations those decisions can be as complex as they are complicated. Although it is possible to model decisions using BPMN, the Decision Model and Notation (DMN) is often more effective in illustrating decisions. Two key elements of the standard are *Decision Requirements Diagrams* and *Decision Tables*. Those elements provide clear, complete, concise, and consistent of decision inputs, factors, and outputs.

- **CMMN Case Models**

  Some business processes are difficult to model, particularly those that are unpredictable or don't always progress in a specific order. While it's possible to model nearly any business process in BPMN, the model can get exceptionally complicated and complex. Sometimes it's impossible to think of all the process paths and gateways a process can progress through.

  Instead, the Case Management Model and Notation (CMMN) is much better for modeling "cases." A case is an unstructured, flexible, and knowledge-intensive business process. And a case consists of a collection of information, tasks, stages, milestones, and decisions. The more complex and complicated a process is, the more likely a case model would be useful in illustrating the process.

- **KPIs and Metrics List**

  The KPIs and Metrics List consolidates all Key Performance Indicators (KPIs) and Metrics identified in individual Process Definition Documents. It is a master list of all the processes within the scope of the process improvement effort. Depending on the goals and objectives of the process improvement effort, the list could also include common industry-standard or best-practice KPIs, with quantifiable measures of how the organization currently compares to those industry-standard or best-practice KPIs. The KPIs and Metrics List serves as the foundation for the Gap Analysis Report. Wherever actual performance falls short of the defined performance standards, a gap is identified.

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- **Roles and Responsibilities (RACI) Matrix**

  Even though process performers are identified in flowcharts, Data Flow Diagrams, the Logical Data Model, and the Process Language Glossary, the Roles and Responsibilities Matrix consolidates and summarizes performer and responsibilities data into a single document. People can have one role and responsibilities in one process, and another role and responsibilities in another process. This causes issues with availability and capacity utilization, conflicting priorities, and individual performer's performance appraisals. It's not unusual for one person to "report to" two or more managers, each with separate agendas and priorities. The Roles and Responsibilities Matrix helps expose and resolve these kinds of resource leveling issues.

- **Business Process Language Glossary**

  People often communicate using real or made-up acronyms, slang, generalizations, and misnomers. This causes plenty of confusion. The Process Language Glossary is intended to serve as THE definitive source of process language, terms, and acronyms. If nothing else, it's used to clarify and confirm all process stakeholders' understanding of the organization's "language of process."

- **Data Flow Diagrams**

  The purpose of a Data Flow Diagram (DFD) is to help focus the specification on the flow of data between participating objects in a process. A DFD illustrates some of the same information that a flowchart does but isn't focused on the procedure or sequence of process tasks. In other words, a flowchart better describes the "how" where the DFD better describes the "what." Like many things we deal with in life, it's difficult, and often somewhat inaccurate to define something from a single perspective - such as looking at an object only from the front, and not from all sides. Since most "business" processes involve the flow and manipulation of data, it's prudent to orient much of the modeling/documentation on the movement and manipulation of that data/information.

- **Business Events and Triggers List:**

  Processes are an organization's response to business events. Therefore, it is prudent to identify all the business events an organization responds to and match those events with the processes they would possibly trigger or initiate. This cross-referencing exercise is done to further ensure that all processes within the scope of the modeling effort have been identified.

Derivative Documents and Data

- **Software Functional Requirements**

  Business process maps can be thought of as the "raw material" or "backbone" of functional software requirements. In a Swimlane diagram, the pools and lanes reveal who the actual users are, and whether they are human or system users. Both human and system users have needs in a process.

  Each step, each gateway or decision, and each path from a decision can be a functional requirement. Whenever a step requires data to be created/entered, read/recalled, updated, or deleted, that's an obvious requirement. Any step that includes a possible timeout, delay, wait, or failure probably requires a structured response that a human or "system" actor must perform. And every Start, Intermediate, or End event has associated requirements.

- **Agile User Stories**

  BPMN business process maps serve as the structural backbone for identifying and writing Agile user stories because they make roles, tasks, decisions, data, and outcomes explicit and visible. Each swimlane identifies a specific role, every activity or task defines a discrete piece of work that role performs, and the connecting flows, gateways, and events reveal the conditions, inputs, outputs, and value that give each story its context and acceptance criteria.

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Because the process map illustrates the sequence of work, handoffs between process roles, and all the sequence paths coming out of decision gateways, the resulting user stories are naturally ordered, free of orphaned requirements, and traceable back to a specific step in the process. Multiple related tasks performed by the same role can be grouped into a single story when they form a coherent unit of value, or kept as separate stories when they represent independent increments. System-to-system interactions visible in the map become technical or integration stories with the same structure.

The Process Definition Document, Business Rules List, and Data Dictionary supply additional detail needed for acceptance criteria, business-rule validation, and data constraints without requiring the team to reverse-engineer the process from code or from high-level requirements alone. The net result is a backlog whose stories are grounded in the actual work the organization performs, ordered by process flow, and aligned with the roles, rules, and data the process improvement solution must support.

- **Test Plans, Cases, and Scripts**

Business process maps and detailed business process documents are foundational artifacts that significantly boost software testers' effectiveness and efficiency. They can be used to create a realistic software testing plan, a full set of test cases and related test scripts.

Process maps show the sequence of all possible paths and steps, decision points, actors, inputs/outputs, integrations, branches, loops, parallel activities, and error handling, while supporting documents provide important process information that can't be communicated through a process map. Software testers can systematically derive test scenarios for each process.

This reduces the time spent reverse-engineering functionality from code, trying to understand the sequence of user stories, or understanding vague specs. Testers can quickly grasp end-to-end scenarios instead of piecing together fragments. That results in fewer misunderstandings, more relevant tests, and better alignment with actual user needs.

Overall, business process maps and documents shift testers from "checking boxes against requirements" to "validating that the software truly enables the business." This makes testing more strategic, proactive, and value-driven.

- **Organizational Change Management Plan**

According to PROSCI, change management is "a structured approach for preparing, equipping, and enabling people to adopt and use change effectively in their daily work. By prioritizing the people side of change, organizations can turn potential disruptions into opportunities for growth."

Prioritizing the people side of the change means being ready to explain exactly how each process performer's process role and responsibilities change. In other words, explain how to do the job the new way. To effectively accomplish that, those communicating the process changes need to have an in-depth understanding of the processes, both the current state and the future state. Without detailed process maps and supporting documentation, change management professionals have to rely on what little process documentation that MIGHT exist in organization. And they have to trust the documentation is current, correct, and adequately precise.

Without an in-depth understanding of the old process and the new process, those engaged in change management and training can't be effective.

- Description & Rationale: Articulate exactly what is changing (processes, technologies, structures) and the strategic "why" behind the shift.
- Impact Analysis: Detail how daily workflows, roles, and departmental operations will be affected to anticipate potential disruptions.
- Stakeholder Mapping: Identify everyone involved or affected by the transition and define their specific roles in the change process.
- Communication Strategy: Create a structured schedule outlining who gets updated, when, and through which channels to prevent rumors and keep employees engaged.

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- **Training Plans, Courses, and Content**

  When processes change, process stakeholders need to be informed and educated. Users aren't the only people in an organization who need training when processes change. Often forgotten during software implementations are the help desk, customer service, and other production staff.

- **Performance Support Content**

  Performance support content refers to a vast array of products like Quick Reference Guides, Instructions, User Manuals, Online Help content, chatbots, augmented reality, virtual reality, and artificial intelligence applications. The development of any of this content requires specific, in-depth process knowledge. To ensure its relevance, consistency, and credibility all of the content must align with all of the current process maps and related process documentation.

  Initial training accomplishes a different goal than the goals of performance support content. "At the moment of need" is what drives the development and distribution of content used by people while they are on-the-job and need an instant refresher or reference. A quick reference guide is an example. Augmented reality virtual reality supports process performance. Developing that content requires in-depth understanding of the business process it supports.

The Process Documentation Repository

Much of the documentation produced during a process modeling/documentation effort is subject to frequent updates, revisions, corrections, and clarifications. These living documents usually need to be accessed by a wide range of process stakeholders during the effort. And, of course, the final documents would be frequently accessed, and updated, by all the different process stakeholders throughout the lifecycle of those processes. All of this drives the need for a well-organized, easily accessible, secure repository of documents. If an organization doesn't already have a content or document management system in place, the modeling/documentation team takes responsibility for developing, implementing, and managing the repository.

Summary

This article addresses the question of "How much detail do you include when modeling a process?" There are a few important concepts to understand when answering the question. First, it's critical to clearly understand the specific reasons for modeling the processes. This should give you an idea about the potential scope and extent of detail needed.

Second, there is a distinct difference between classification levels and decomposition extent.

Third, it's likely that a flowchart alone can't provide or expose enough information to completely define a process.

And since a useful process model involves more than just a flowchart, and those documents will be frequently accessed by a wide range or process and project stakeholders, a document management system should be implemented to ensure ease and simplicity of access, while providing control and security to ensure documentation integrity.

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