Part 2

{ Process Modeling Quality and Perspective

Ilham Perdana
Lhamdana@gmail.com

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1. Process Modeling Quality

Why we need quality standard?

- It is useful to have some standards and measures of quality as it relates to process modeling.
- Model Quality:
  - Accuracy
  - Amount of detail
  - Completeness of the model

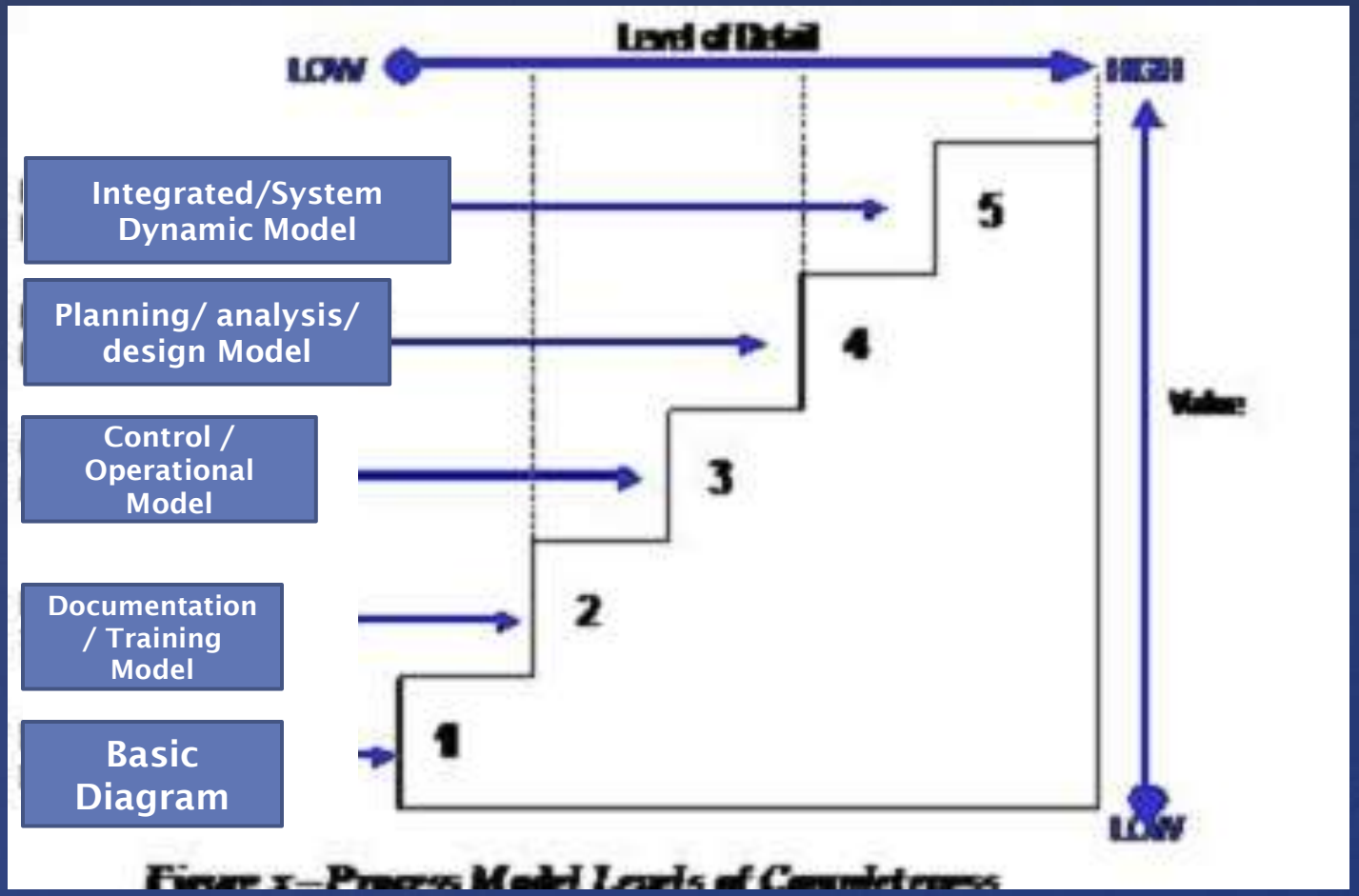
- The use of models → to describe what is happening during the process.
- These models are often called "as is" models → based on the decisions made previously regarding which methodologies and techniques

The model created **should have sufficient** detail:

business environment	· customers, suppliers, external events or market pressures
organizational structure	· hierarchical or functional view of the organization and how the people work together
functional or departmental structure of the organization	· how the functions or departments work together in the process
business rules	· control the decisions that are made during the process and workflow
activities or actions	· take place within the process and who does those actions

- During the modeling of a process:
  - several disconnections, restrictions, and/or barriers may become apparent.
  - It will help create a common understanding of the current state.

Restrictions



example quality matrix for process models

- Level 1 - Basic Diagram
  - one or more graphical depictions-diagrams
  - may be process flow or a hierarchy of activities or both
  - cannot deviate too radically from BPMN notation standards
  - may be in either drawing tool (Using the company BPMN stencil) of Company Standard Tool

- Level 2 - Documentation/Training
- the model:
  - must follow company running standards
  - may be in either accepted drawing tool or Company Standard Tool
  - should have at least one process flow diagram at the activity or task level
- all diagram must:
  - have a diagram title at the top of the page
  - contain the date, version and other document control information
  - adhere to company minimum standards
    - A unique title that follows the company running standards
    - use the BPMN notation

example quality matrix for process models (2)

- All Process objects:
  - Major processes down through activities require a description - a dear description explaining of what work is done
  - task require procedural documentation
- Level 3 - Control/Operational
  - all documentation/training standards plus:
  - all diagrams:
    - are assigned to a subject area
  - all Process objects on the diagram have:
    - defined purpose and description

example quality matrix for process models (3)

Model Validation and Simulation

- Validation → compare simulated outputs to real-world results (using simulation).
- Any salient differences should be understood and corrected before detailed analysis.
- Another way to validate model:
  - collect a group of people who work in the process and simulate the process by having one person in the group describe each activity and its product(s)

2. Modeling Perspectives

- Process modeling has been used for:
  - strategic planning,
  - improving operations, and
  - specifying information and applications system requirements

example representation of the different perspectives

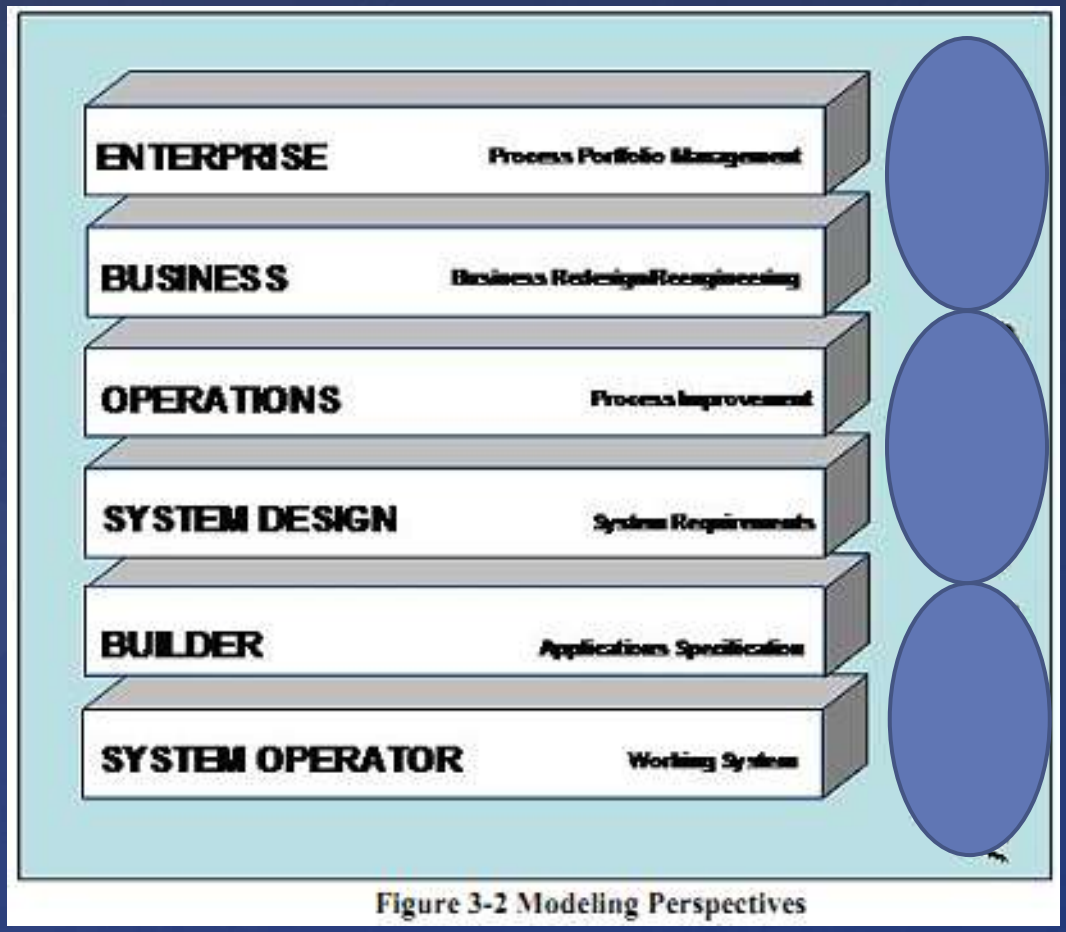


Figure 3-2 Modeling Perspectives

Modeling Perspectives

Enterprise Domain	· see how the enterprise *operates overall* and that the primary processes
Business Domain	· view *supports each of the process owners*, who is accountable for and has the authority to address overall process performance.
Operations Domain	· responsible for *monitoring performance* and look for ways to *continuously improve* operational performance
Systems Domain	· how *work gets done and how the systems support* that work is the systems perspective
Builder and Operator	· support *the individuals who have to build all of the support systems* to enable work and to operate the systems

3. Levels of models

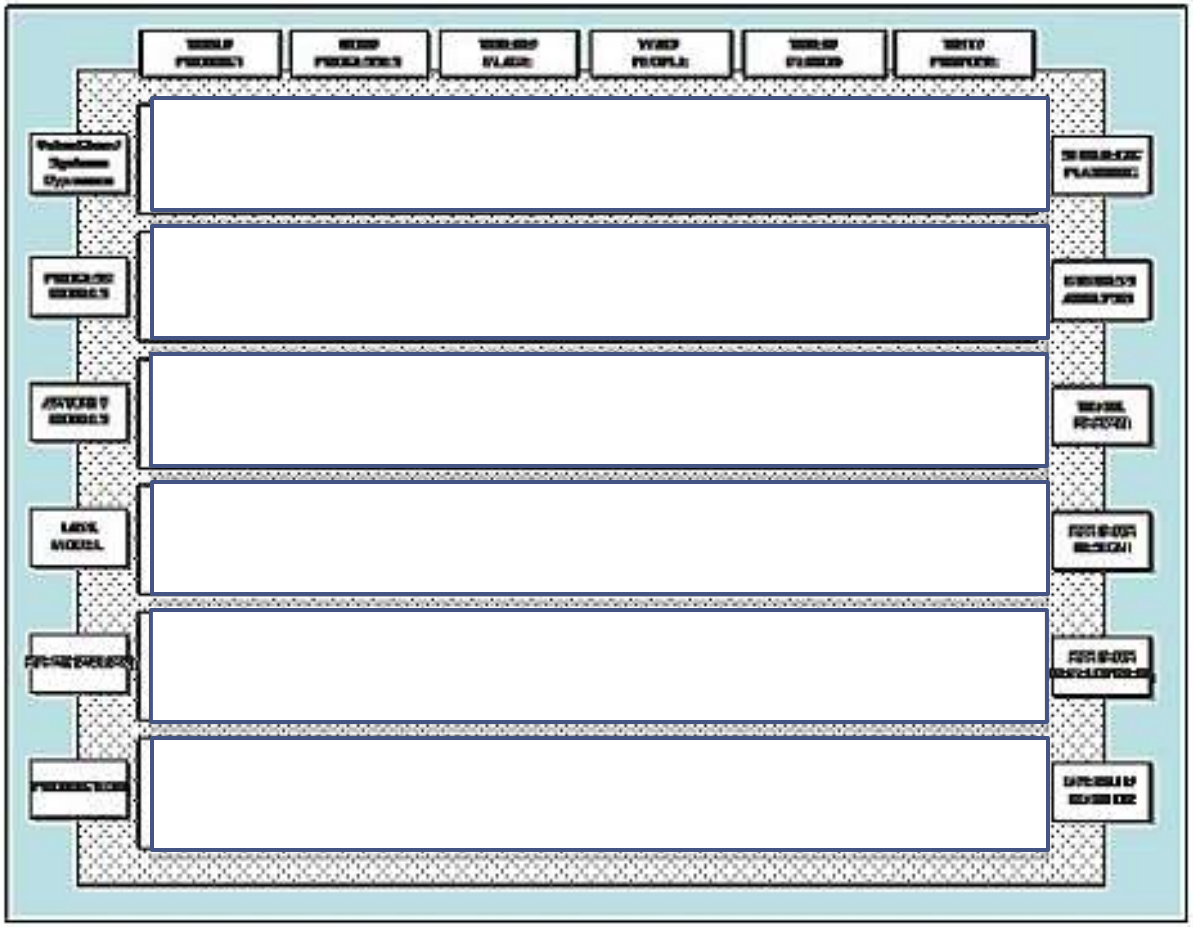


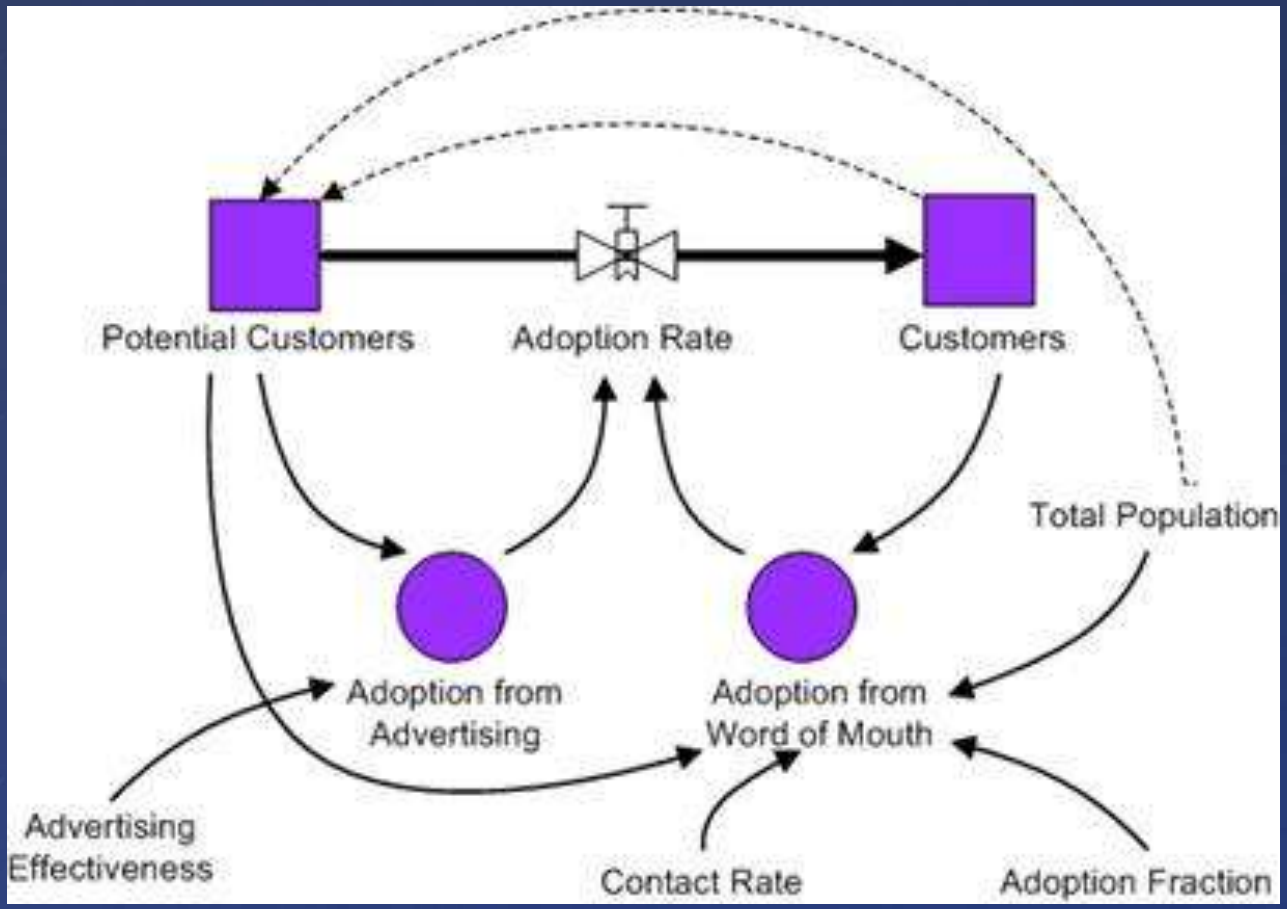
Figure 3-3 is an example of a process model repository structure with example labels for the types of models and their usage.

- Enterprise
  - An enterprise view model is typically a highly abstracted business classification model
  - These models typically organize processes into categories such as primary, support, and management
  - The processes may be mapped to Key Performance Indicators (KPIs) and strategic goals in a process portfolio and used to prioritize resources and project efforts.
  - They may be mapped into a System Dynamics type model to formulate strategies for alternate future scenarios or to develop high level estimates and forecasts

- **Example of Business Process KPI**
  - Percentage of processes where completion falls within +/- 5% of the estimated completion
  - Average process overdue time
  - Percentage of overdue processes
  - Average process age
  - Percentage of processes where the actual number assigned resources is less than planned number of assigned resources
  - Sum of costs of “killed” / stopped active processes
  - Average time to complete task
  - Sum of deviation of time

Example of KPI

Source: http://www.pnmsoft.com/resources/bpm-tutorial/key-performance-indicators/



What is System Dynamic?

- Business Models
  - Business models depict the major events, activities, and results
  - Describe:
    - end-to-end processes,
    - their sub-processes, and
    - their interactions with their environment
- Operations and Work Flow
  - These are detailed models mapped down to activity, task, and procedural level details and describe the physical implementation details of the operating processes.

- System
  - depict the triggering events, software processes, data flows, and system outputs required
- Measurement and Control
  - indicate points in the operation where key performance measure and control points are monitored

4. Modeling Approaches

- There are a number of approaches to process modeling:
  - top-down, middle-out, or bottom-up
- The approach used varies depending on the purpose and the scope of the effort.
- The key is to determine the purpose of the modeling effort and then apply the best approach for that purpose.

5. Capturing Information

- Direct Observation
  - is a good way to document current procedural detail.
  - Direct observation also entails the risk of the performers doing what they think you want to see rather than what they normally do
- Interviews
  - requires minimal time and disruption of normal duties from the participants.
  - generally requires follow up and sometimes doesn't uncover all of the activities to completely describe the process

- Survey/Written Feedback
  - requires minimal time and disruption of duties
  - require follow up
- Structured workshops
  - Structured workshops are focused, facilitated meetings where enough subject matter experts and stakeholders are brought together to create the model interactively.
  - shortening the elapsed calendar time required to develop the models and gives a stronger sense of ownership to the workshop participants than other techniques
  - require less follow up and generate a commonly agreed upon with higher quality than other techniques
  - workshops may be more costly than other methods

- Web-Based Conferencing
  - to gain much the same benefits as face-to-face workshops, but work best with smaller groups
  - more convenient and less expensive
  - it can be more difficult to monitor and manage individual participation