COST IC0604 - WG1: BUSINESS MODELING IN PATHOLOGY

SUMMARY OF THE 1ST MEETING OF THE WORKING GROUP 1 IN BERLIN , 3RD WORKSHOP OF THE OPEN EUROPEAN NEPHROLOGY SCIENCE CENTER

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CONTENT

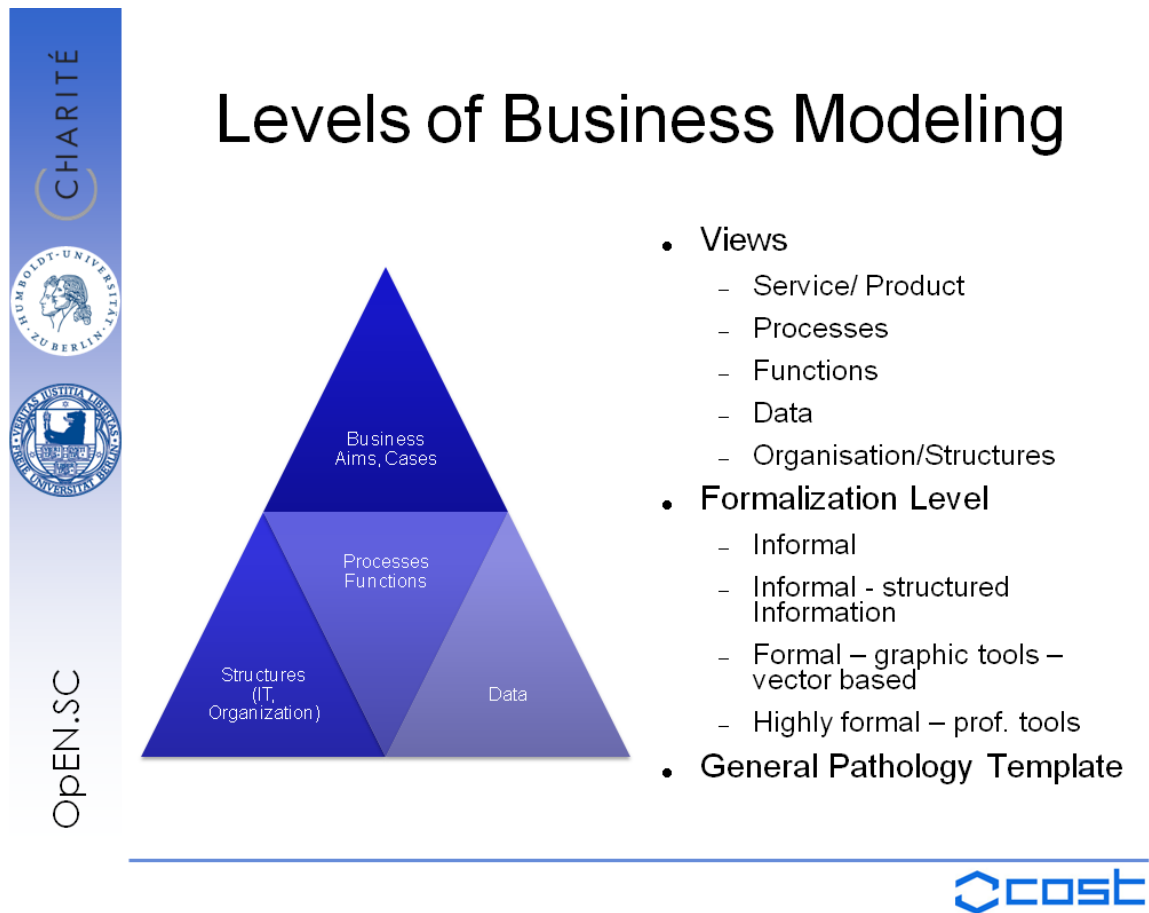Considering of the various views, levels, and aspects of business modeling.

FIGURE 1: LEVELS, ASPECTS AND VIEWS OF BUSINESS MODELING

These levels are covered in the model matrix which the usage of various model tools defines.

FORMALIZATION LEVEL

In general four formalization levels were accepted:

- Informal level – every type of information –text, images, tables are allowed
- Informal structured information – as result of a first discussion with the business modeler /architect a more structured information can be created,
- Formal level – various visualization tools and models are available. But pure graphic software has some limitations e.g. a model cannot be transferred to another model type. Such graphical software is cheap and can be used by every partner. To allow a transfer only vector based graphic file formats should be used.
- Highly formal level – some professional business analysis tools allow the transformation of models to another and the business process simulation which can be very useful. But these tools are very (very) expensive. Some of these tools are available by the partner of the project. The modeling on this level should be done separately as an agreement with the partners.

Model matrix working group 1

	Functional view	Organi-zational view	Data view	Output / service view	Process view
Informal model (overview)	Text, Graphical Image, Table, structured Text				
Main model types	Function tree	Organiza-tional Chart	ER, UML	Product tree	BPMN
Additional model types		UML			EPC UML

Comments
- Hardware, Network, System Architecture is not in the focus!
- Version 1.0 – status: working draft

FIGURE 2: MODEL MATRIX - WORKING DRAFT

Various other models (see below) could be used by the working group, but it was decided to tailorize the huge set of visual model types. Not all aspects of cannot be described by the WG e.g. network structure, application system structure.

Some of the discussed models e.g. are used in the standardization organizations such as IHE. But for instance the Unified Modeling Language has a focus on software development in respect of a object orientated design.
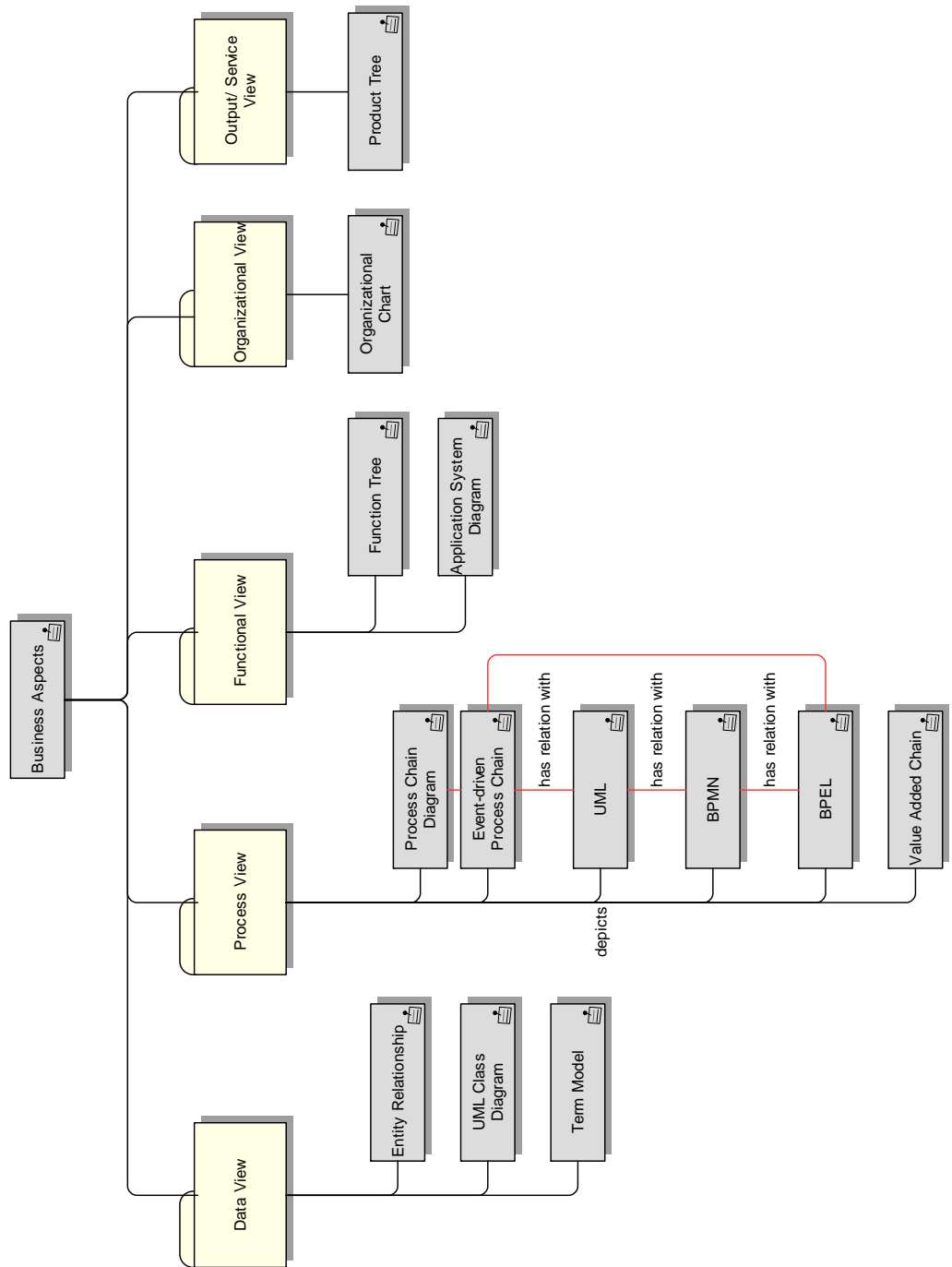
FIGURE 3: MODEL TYPES OVERVIEW

TEMPLATE MODELLING

The target to develop templates of business models seems more suitable in contrast to other model types. The archetypical model is not well defined, the model of a specific department is not very effective due to the fact some important aspects could not be modeled because these aspects may not play a role in department.
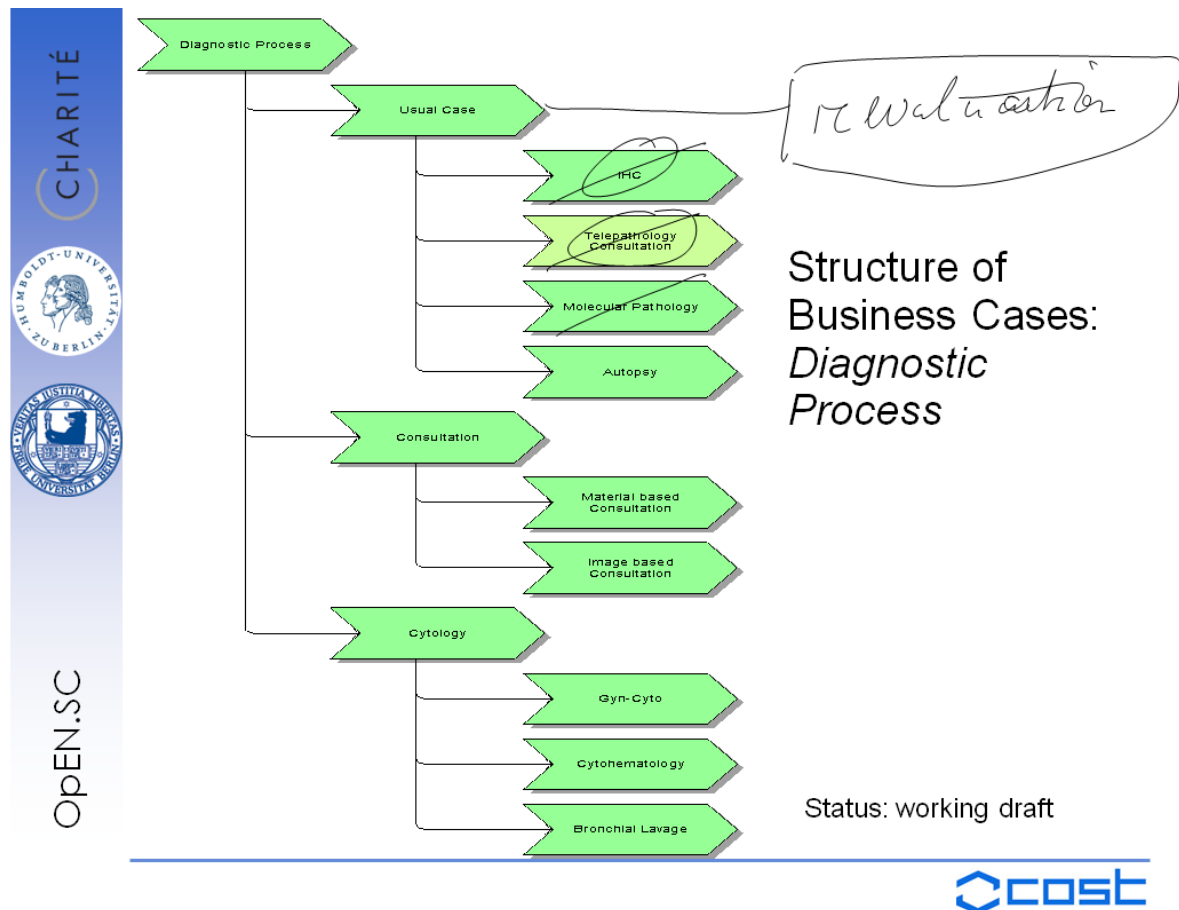
BASIC BUSINESS CASES

FIGURE 4: CREATION OF A LIST OF BUSINESS CASES

The creation of such a list is very useful.

In the first impression it is sometimes not decidable whether a proposed business case is really a separated business case or not. The following modeling process helps to understand the process and included sub-processes.

BUSINESS CASE: GENERAL PATHOLOGY AND ITS PROCESS

The first business case and process was modeled on the very informal level using pencil and paper.

FIGURE 5: BUSINESS PROCESS: GENERAL PATHOLOGY PART 1[1]

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[1] Yellow rectangles mark a type of material such as slide, operation specimen…, rectangles inside of the larger rectangles mean sub-processes. The color green means a message, information flow or a specific data structure. The blue rectangle should be added into the next version.
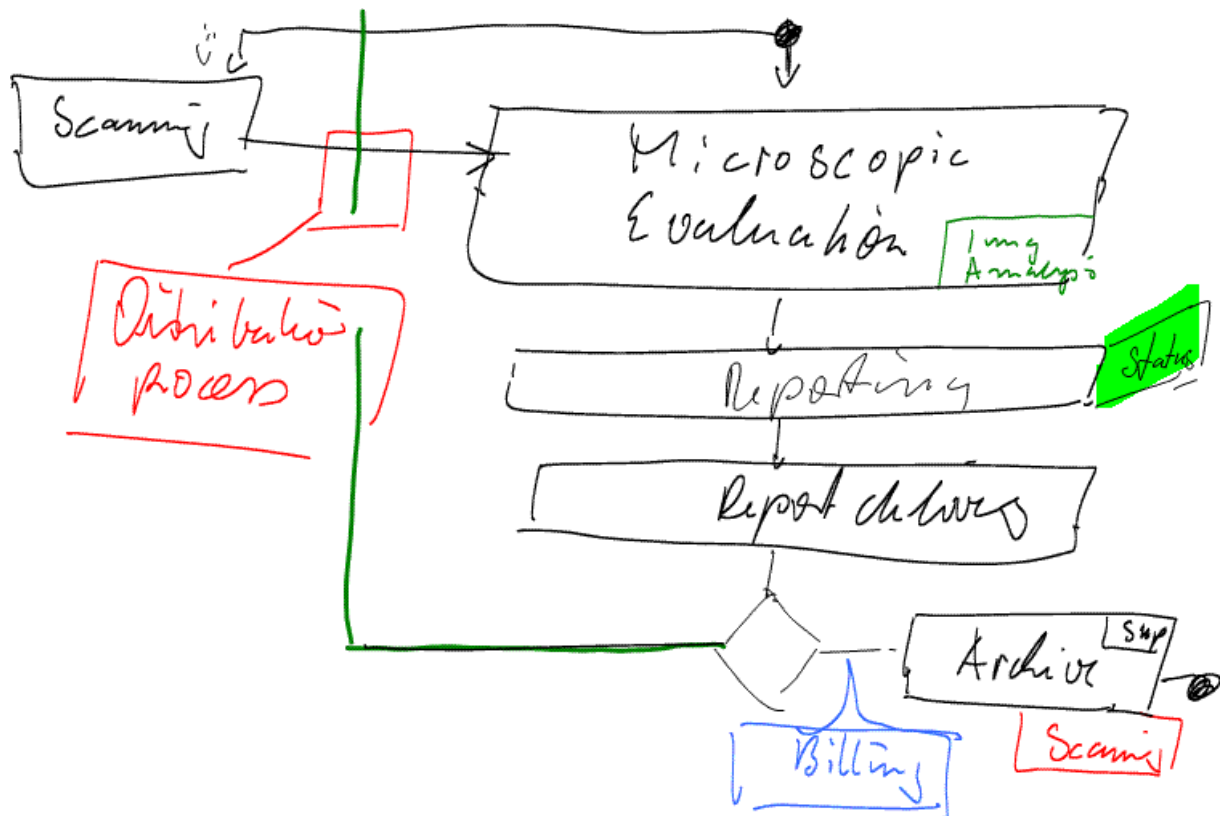
FIGURE 6: BUSINESS PROCESS GENERAL PATHOLOGY PART 2

As a consequence of this process another specific business case proposal should be evaluated: reevaluation of an old case. Looking for the old case in the archive and request a new procedure.

BUSINESS CASE: TELEPATHOLOGY CONSULTATION

The telepathology business case is quite complicate to understand. Two aspects should be differentiated:

1. Telepathology consultation as a part of the diagnostic process. In such case the pathologist requests a telepathology consultation and this is a sub-process within the global process of the diagnostic process.
2. The pathologist is the consultant and gets an external request for a second opinion. At the end of this diagnostic process a bill can be send to the requester.
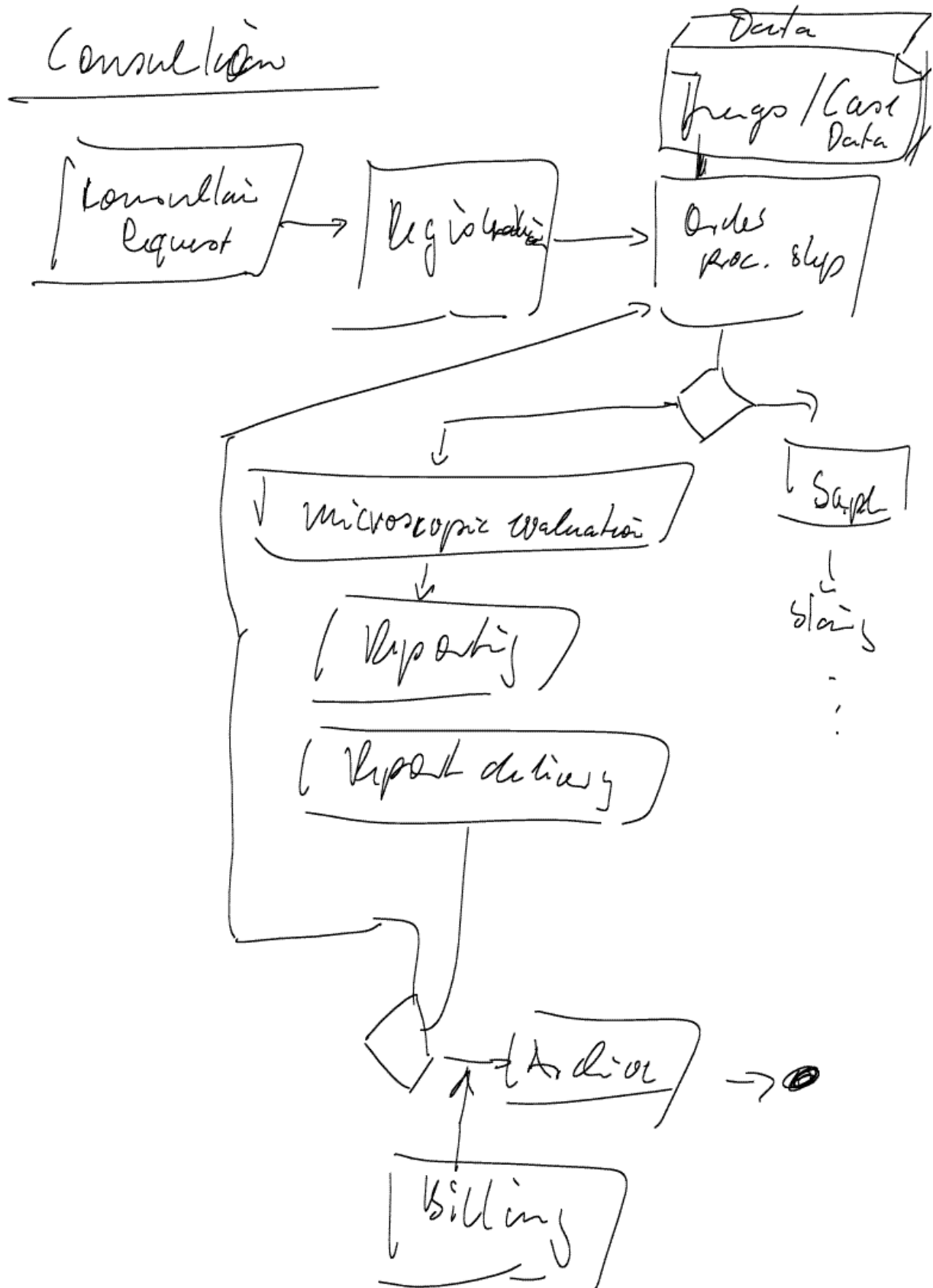
FIGURE 7: THE BUSINESS CASE CONSULTATION

The complex situation of a network of connected pathology departments using telepathology technology including WSI should be evaluated separately.

FIGURE 8: COMPLEX STRUCTURE OF TELEPATHOLOGY UNITS
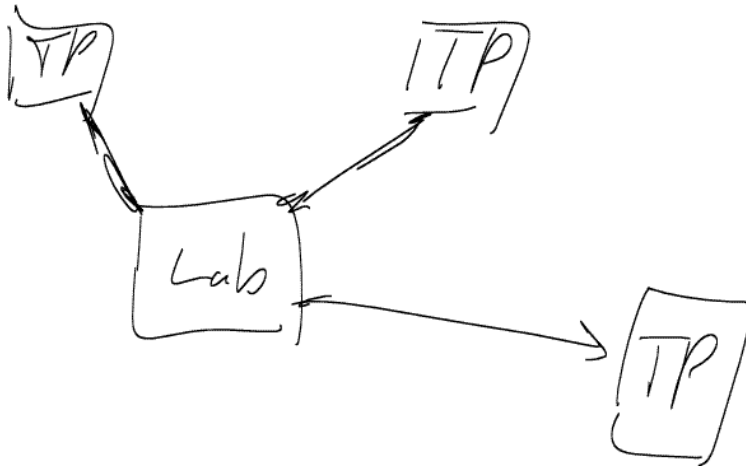
NEXT STEPS

Both models should be redesigned on the formal level using graphic tools or/and on the highly formal level using professional modeling tools.

The Business Process Management Notation is the accepted language and can be supplemented by the Event-driven Process Chain or UML (behavior diagrams).
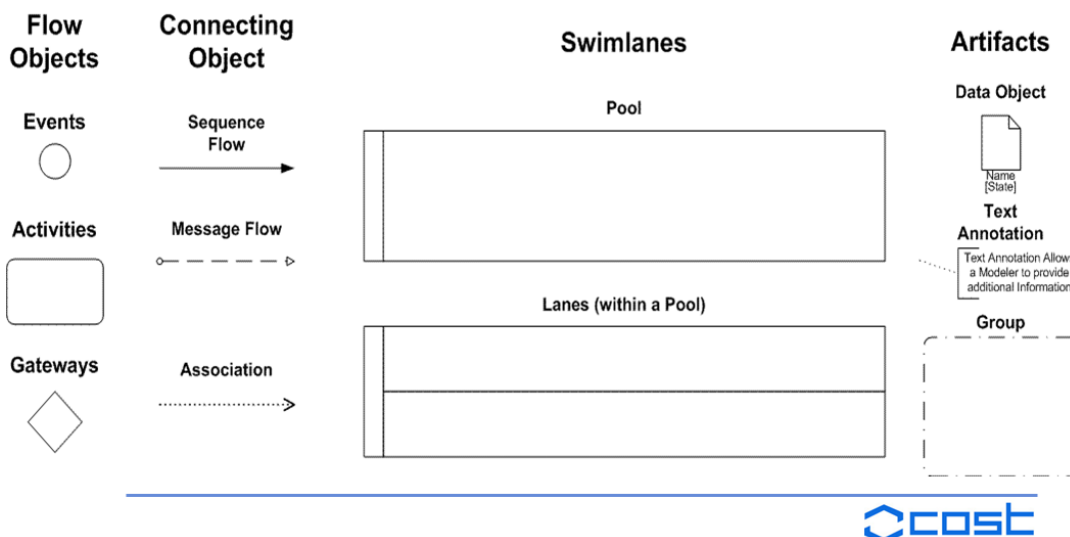
FIGURE 9: ELEMENTS OF BUSINESS PROCESS MANAGEMENT NOTATION
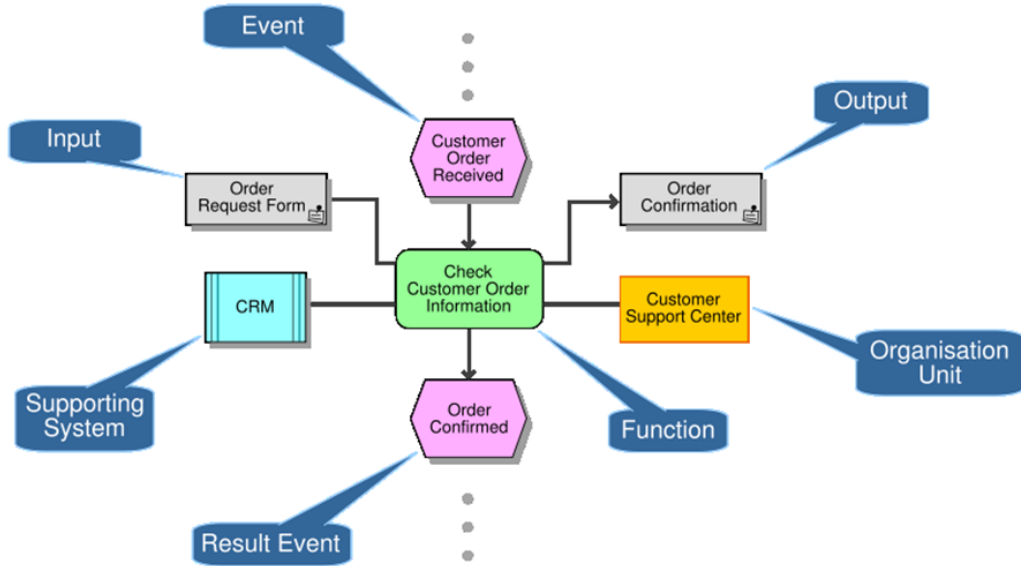
FIGURE 10: DESCRIPTION OF EVENT-DRIVEN PROCESS CHAIN

GLOSSARY[2]

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Term-Definition-Template:

- **Term:**
    - o **Definition:**
    - o **Source:**
    - o **SourceID_Type:**
    - o **SourceID:**
    - o **IC0604_Comment:**
    - o **Status:** PD

The terms will be sorted alphabetically.

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[2] Current version of the glossary.

REVISION TABLE

Date	Author	Comment
March 3, 2008	Thomas Schrader	Creation of this document, first terms with UMLS terms
May 5, 2008	Thomas Schrader	Adding of new terms to the glossary with terms of RUP

GLOSSAY

- **Term:** Business Case
    - **Definition:** A Business Use Case (class) defines a set of business use-case instances in which each instance is a sequence of actions that a business performs that yields an observable result of value to a particular business actor, or that shows how the business responds to a business event, to yield a business benefit.
    - **Source:** Rational Unified Process, Version 7.0.1, Copyright (C) IBM Corporation 1987, 2005.
    - **SourceID_Type:**
    - **SourceID:**
    - **IC0604_Comment:**
    - **Status:** WD
- **Term:** Business Entity
    - **Definition:** A Business Entity represents a significant and persistent piece of information that is manipulated by business actors and business workers. Business Entities are passive; that is, they do not initiate interactions on their own. A Business Entity might be used in many different Business Use-Case Realizations and usually outlives any single interaction. Business Entities provide the basis for sharing information (document flow) among Business Workers participating in different Business Use-Case Realizations.
    - **Source:** Rational Unified Process, Version 7.0.1, Copyright (C) IBM Corporation 1987, 2005.
    - **SourceID_Type:**
    - **SourceID:**
    - **IC0604_Comment:**
    - **Status:** WD
- **Term:** Business Event
    - **Definition:** A Business Event represents a significant occurrence in the activities of the business that requires immediate action.
    - **Source:** Rational Unified Process, Version 7.0.1, Copyright (C) IBM Corporation 1987, 2005
    - **SourceID_Type:**
    - **SourceID:**
    - **IC0604_Comment:**
    - **Status:** WD
- **Term:** Business Goal
    - **Definition:** A Business Goal is a requirement that must be satisfied by the business. Business Goals describe the desired value of a particular measure at

some future point in time and can therefore be used to plan and manage the activities of the business.
- o **Source:** Rational Unified Process, Version 7.0.1, Copyright (C) IBM Corporation 1987, 2005
- o **SourceID_Type:**
- o **SourceID:**
- o **IC0604_Comment:**
- o **Status:** WD
- **Term:** <u>Business Operation</u>
  - o **Definition:** A business service that can be requested from an object to effect behavior. An operation specifies the name, type, parameters, and constraints for invoking an associated behavior.
  - o **Source:** Rational Unified Process, Version 7.0.1, Copyright (C) IBM Corporation 1987, 2005
  - o **SourceID_Type:**
  - o **SourceID:**
  - o **IC0604_Comment:**
  - o **Status:** WD
- **Term:** <u>Business Rule</u>
  - o **Definition:** A Business Rule is a declaration of policy or a condition that must be satisfied.
  - o **Source:** Rational Unified Process, Version 7.0.1, Copyright (C) IBM Corporation 1987, 2005
  - o **SourceID_Type:**
  - o **SourceID:**
  - o **IC0604_Comment:**
  - o **Status:** WD
- **Term:** <u>Business System</u>
  - o **Definition:** A Business System encapsulates a set of roles and resources that together fulfill a specific purpose and defines a set of responsibilities with which that purpose can be achieved.
  - o **Source:** Rational Unified Process, Version 7.0.1, Copyright (C) IBM Corporation 1987, 2005
  - o **SourceID_Type:**
  - o **SourceID:**
  - o **IC0604_Comment:**
  - o **Status:** WD
- **Term:** <u>Business Use Case</u>
  - o **Definition:** A Business Use Case (class) defines a set of business use-case instances in which each instance is a sequence of actions that a business performs that yields an observable result of value to a particular business actor, or that shows how the business responds to a business event, to yield a business benefit.
  - o **Source:** Rational Unified Process, Version 7.0.1, Copyright (C) IBM Corporation 1987, 2005
  - o **SourceID_Type:**
  - o **SourceID:**
  - o **IC0604_Comment:**
  - o **Status:** WD
- **Term:** <u>Business Use-Case Realization</u>

- **Definition:** A Business Use-Case Realization describes how business systems, business workers, business entities, and business events collaborate to perform a particular business use case.
  - **Source:** Rational Unified Process, Version 7.0.1, Copyright (C) IBM Corporation 1987, 2005
  - **SourceID_Type:**
  - **SourceID:**
  - **IC0604_Comment:**
  - **Status:** WD
- **Term:** Business Worker
  - **Definition:** A business worker is an abstraction of a human, software or hardware (or even a system that is a composite of these) that represents a role performed within business use case realizations. A business worker collaborates with other business workers, is notified of business events and manipulates business entities to perform its responsibilities.
  - **Source:** Rational Unified Process, Version 7.0.1, Copyright (C) IBM Corporation 1987, 2005
  - **SourceID_Type:**
  - **SourceID:**
  - **IC0604_Comment:**
  - **Status:** WD
- **Term:** Telepathology
  - **Definition:** Transmission and interpretation of tissue specimens via remote telecommunication, generally for the purpose of diagnosis or consultation but may also be used for continuing education.
  - **Source:** UMLS AC2007
  - **SourceID_Type:** CUI
  - **SourceID:** C0162646
  - **IC0604_Comment:** Telepathology is also useful for research purpose. (TS)
  - **Status:** WD