Chapter I
Evolution of Business Process Notation

WHY PROCESS NOTATION IS IMPORTANT

The analysis of the business processes, realized through visits and interviews to the employees, must necessarily aim to provide for visibility to a large range of operation of the whole process knowledge; this misses very often to the company: each operator sees only the part of the process that tightly competes with it and only an analysis realized by an external team (or that succeeds in abstracting from the specific problems of every actor of the business process) can gather the process in its entirety.

The analysis, of course, has to be documented in a precise and punctual way, and surely it is necessary to find a tool of representation of the business processes that allows providing a clear vision, precise and not technical at the same time. Such representation has to initially be a tool of discussion between an analyst and the company and, then, a tool of connection among business analysts, involved eventually also in the phase of reengineering, and IT analysts.

To achieve this goal, it is essential to carefully analyze the various techniques of representation of the business processes existing in the international panorama.
and among these to select the technique that whose results are more suitable to our purposes.

This chapter describes the actual methods of representation of the business processes identifying that appears more proper for the design of complex Web information systems and defining it in detail. Specifically, three notations will be analyzed: IDEF0, UML® and BPMN™.

**IDEF0:1993**

IDEF0 (Draft Federal Information, 1993) is the acronym for integration definition for function modeling; it is a standard born in 1993 with the goal of providing for a manner to model in a consistent and complete way the activities, functions, processes, operations as well as the relationships intervening between them. IDEF0 has the followings characteristics:

- **Generic**, or rather it suits it for the analysis of systems with various goals and complexity
- **Rigorous and precise** with the purpose of providing a correct model and easily usable
- **Concise to facilitate the communication**, the approval and the validation of the model
- **Conceptual** for the representation of the functional requisites
- **Flexible** to support different phases of the cycle of life of a project

The use of IDEF0 is recommended for the projects that:

- Require proper techniques of modeling for the analysis, development, and reengineering of an information system
- Require a description of how the company works through an analysis of its processes

The IDEF standard, in which is included the IDEF0 standard, is constituted by three other levels:

- **IDEF0**, used for producing a “functional model.” A “functional model” is a structure that represents the functions, the activities and the processes inside the system or in the area of interest.
- **IDEF1** is used for producing a “information model” that represents the structure and the semantics of the information in the area of interest.
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