Glossary

Abstract State Machine (ASM)

An Abstract State Machine is a machine specification according to theoretical computer science for the formal description of states. Based on the concept of the Turing machine it can be used for the formal specification to describe, e.g., programming languages. Recently, it has also been used for verifying business process models. A detailed description of the model of S-BPM can be found in the appendix of this book.

Activity

An activity is a set of actions accomplishing tasks performed by a human or automatically by a computer system when managing work. The concept is called function in function-oriented approaches. In Subject-oriented Business Process Management, we also speak of → predicates. By implementing an activity in an organization (assigned to a work performer), it becomes a concrete task.

Activity Bundle / Bundle of Activities

A bundle of activities is some part (similar to a phase) of the → S-BPM procedure model described by → activities. They are performed by the various → S-BPM stakeholders as part of an entire organizational development step. These are:

* → Analysis
* → Modeling
* → Validation
* → Optimization
* → Organization-specific implementation
* → Information Technology implementation
* → Monitoring

Actors

Actors are work performers, i.e., active participants of a work process, and represent one type of four → S-BPM stakeholders. According to the → S-BPM procedure model, they may participate in process design. They correspond to the subject carriers that take and execute the roles of subjects. Actors are also primary points of reference in the analysis, modeling, optimization, and implementation of business process models, according to the objective of S-BPM. Hence, they are active in and responsible for processes at the same time. They may be supported by → Experts and → Facilitators.

Additional Semantics

For individual subjects or states within the behavioral description, it is possible to specify an additional semantic and thus state the reasons for the existence of a subject or state within a process or for individual states in a behavior description.

Alignment → IT / BUSINESS ALIGNMENT

Analysis

Once an S-BPM project has started, the analysis is usually performed first. It involves a purposeful collection and analysis of relevant process information in preparation for the next steps. The distinguishing characteristic of the subject-oriented analysis is its focus on subjects, predicates, and objects. It implements systemic thinking by using the information about business processes to determine authorities or roles that serve as reference points. The key benefit for organizations using the method of S-BPM for analysis is that work performers (→ Actors) and managers (→ Governors) are directly involved in the collection and evaluation.

Behavior → SUBJECT BEHAVIOR

Behavior Macro

A behavior macro is a state that can be included multple times at any position in the behavior of a specific subject.

Behavior Macro Class

A behavior macro class is a behavioral description that can be included multiple times in the behavior of different subjects.

Behavior Reduction

Performance reduction refers to a simplification of the behavior of a subject to those aspects that need to be recognized by another subject who wants to communicate with the reduced subject. This other subject is only interested in the communication behavior of the partner.

Business Activity Monitoring (BAM)

The concept of Business Activity Monitoring (BAM) is the continuous, business-oriented monitoring and evaluation of business process instances in real time. BAM not only deals with financial key performance indicators, but also with technical indicators such as database response times, in the course of continuous monitoring. Business Activity Monitoring uses, along with periodic and ad hoc reports, permanently measured data. However, it immediately processes it in a stream-oriented data analysis (stream-and-analyze) using methods from → Complex Event Processing (CEP).

Business Objects

Business objects are those business-relevant components that characterize the work process. They represent data (possibly with the underlying, managed tools), which → subjects need to accomplish their tasks. In → Subject-oriented Business Process Management, those objects are represented that are relevant for the exchange of messages between subjects and for implementing the various activities of the subjects.

Business Process

A business process is a set of interrelated activities (tasks) which are handled by active entities (persons or systems performing work tasks) in a logical (with respect to business) and chronological sequence, and which use resources (material, information) to work on a business object for the purpose of satisfying a customer need (to thus contribute an added value), and which have a defined start and input, as well as a defined end state and result.

Business Process Analysis → ANALYSIS

Business Process Implementation → INFORMATION-TECHNOLOGY (IT) IMPLEMENTATION, ORGANIZATION-SPECIFIC IMPLEMENTATION

Business Process Management (BPM)

The term Business Process Management (BPM) can be considered from two dimensions: The original, purely economic perspective refers to an integrated management approach in terms of documentation, design, optimization, implementation, management, and development of management, core, and support processes in organizations. It is intended to help to meet the needs of the stakeholders, especially of customers, and to achieve business objectives.

Meanwhile, in science and practice, the technical dimension of the IT support of business processes is also considered. This ranges from tools for documenting and modeling of processes, workflow engines for executing process instances using application software functionality (such as services of an ERP system), and business intelligence applications for evaluating process performance. Solutions with a high degree of coverage of these aspects are referred to as Business Process Management Systems (BPMS) or, preferably by software vendors, as business process management suites.

Business Process Model → MODEL

Business Process Modeling → MODELING

Business Process Monitoring → MONITORING

Business Process Optimization → OPTIMIZATION

Business Process Validation → VALIDATION

Communication Structure Diagram (CSD) → SUBJECT INTERACTION DIAGRAM (SID)

Complex Event Processing (CEP)

Complex event processing denotes a set of computational methods, techniques, and tools enabling the recognition and processing of events as soon as they occur, continuously and promptly. It is increasingly about the recognition and processing of event patterns (sets of facts) that only become obvious by combining several individual events (simple events) into so-called complex events. It is important that a probable occurrence of the complex event is inferred from the occurrence of simple events as soon possible, so that proactive measures for prevention or risk reduction can be taken.

Compliance → CORPORATE COMPLIANCE

Corporate Compliance

Corporate compliance is a → governance task and denotes concepts and actions, with which organizations seek to avoid risks resulting from violations of external and internal regulations, by ensuring compliance with these requirements. It is not about the obvious compliance with any applicable law, but about possible breaches of regulations that need to be put under the regime of risk management, and that need to be addressed by appropriate organizational, technical, and personnel measures. Examples of such measures are the design and implementation of appropriate processes (such as approval workflows), increased awareness, information and staff training, and regular monitoring and documentation of regulatory compliance, including sanctions for violations. Due to the close relation of compliance to governance and risk management, the concept of the Governance Risk Compliance (GRC) triad has emerged.

Corporate Governance

Corporate governance is understood as a management system used for corporate management and monitoring, which is oriented towards the long-term creation of value, while following both legal and ethical principles. It is grounded on several acts, such as in Germany on the German Corporate Governance Code, the Law on Control and Transparency Act (KonTraG), and the Accounting Law Modernization Act (BilMoG). From corporate governance, → IT governance is derived.

Embedding

In the → organization-specific implementation, the abstract elements of the model are mapped to specific components of the organization. This mapping is also termed embedding. When → subjects are embedded, they become → subject carriers, embedding → activities leads to specific → tasks.

Exception Handling

An exception handling (also termed message guard or message control, message monitoring, message observer) is a behavioral description for a subject that is relevant when a specific exception condition occurs in the → subject behavior. A specific branch is activated, in case a corresponding → message is received and the subject is in a state in which this message is allowed to jump to exception handling.

Experts

In many situations it is necessary for → Actors to seek specialized support. For this purpose, an Expert, another → S-BPM stakeholder, is needed, and is either solicited by the → Facilitator of the development process, or by the → Governors, or by the → Actors themselves. An Expert is used for various issues as a problem solver.

External Subject

An external subject represents in a process at hand the → interface subject to an interlinked process. Mutual referencing leads to a → process network.

Facilitators

A Facilitator guides organizational development and is one of the four categories of → S-BPM stakeholders. He supports the → Actors when initiating organizational development steps and when moving from one bundle of activities to another. He accompanies the process for introducing or adapting a process. His recommendations have influence on the organizational development. In addition, the Facilitator structures and supports the communication of actors with domain experts. As such, he can be understood as a catalyst of organizational development. He could even succeed in developing other involved → S-BPM Actors professionally or personally.

Freedom of Choice

Freedom of choice refers to the right granted to a → subject carrier to make its own decisions for a variety of options in its behavior.

General Conditions

Business process management comprising the various → bundles of activities cannot be considered as being independent of the environment of an organization. It is embedded in the business environment, e.g., business system and IT environment of an organization; the vision, strategy, and culture for BPM and risk management; → Corporate Governance and → Corporate Compliance. These conditions are designed primarily by → Governors.

Governance → CORPORATE GOVERNANCE

Governance Risk Compliance (GRC) Triad

Metaphor for the interdependence and increasing importance of → Governance / → IT Governance, Risk Management, and → Corporate Compliance / → IT Compliance.

Governors (caretakers, drivers, and responsible persons)

Governors are → S-BPM stakeholders taking responsibility for all constraints of a process and having an influence on the respective work and development processes. Their job is to bridge the gap in organizational development between management responsibilities and operational business. Although, they are not in charge of the domain-specific and technical control of a process, they must ensure that processes meet the given standards: A process should always be viewed in the context of an entire organization. Therefore, for its deployment, requirements of corporate governance should exist (e.g., → Corporate Compliance, → IT Compliance). These must be followed in the course of the implementation.

Information Technology (IT) Implementation

For the realization of IT support, a business process must be designed in terms of a → Workflow, which is a detailed description of a business process from an IT perspective.

Input Pool

An input pool is a message buffer for each subject, the purpose of which is to address problems in asynchronous message exchange. It is used to buffer all messages having been sent to the subject, regardless of which communication partner they come from. The input pools are therefore "mailboxes" for flexible configuration of the message exchange between subjects. In contrast to buffers, in which always only the front message can be seen and taken, this pool solution allows removing any message.

Instance → PROCESS INSTANCE

Interface Subject

An interface subject represents, for a link to a subject within a → process network, the subject to be referred to in the linked process. In the considered process, it is modeled as an → external subject.

IT/Business Alignment

IT/Business Alignment is the alignment of IT with business requirements to optimize IT utilization and its associated value contribution. This alignment is an essential task of → IT Governance. In the context of alignment, enabling should also be considered. This denotes the inverse relationship in which IT provides the impetus for the business, e.g., by facilitating new business models (enabling).

IT Governance

IT Governance has been derived from → Corporate Governance. It should ensure by appropriate leadership and the same organizational structures and processes that IT supports the achievement of business objectives, while resources are responsibly used and risks properly monitored.

Key Performance Indicator (KPI)

A Key Performance Indicator (KPI) is a process measure of particular importance for an organization in terms of a critical success factor. Common Key Performance Indicators are the satisfaction of external or internal customers, the quality of the process results, the adherence to deadlines for the delivery of results, the process time (throughput time, cycle time), and the process costs.

Messages

Messages are used for representing interaction relations of → subjects during process execution. They transmit simple parameters or complex information structures, such as → Business Objects.

Model

All models are, with the help of → Model Description Languages, descriptions created by humans to represent their perceived reality. Business process models are mostly diagrammatic representations of → business processes and describe the activities and communication structure of the work force, the application systems, machinery, data, and other aids or tools involved. They are a medium to build a common reference for all participants to the activities and the supporting technology. Thus, business process models should not only be intelligible to the experts creating them, but also to those who will later work according to the model (i.e., business process description), or are supposed to supplement the processes using corresponding tools. On the one hand, there are the stakeholders or users who express how they should or can perform their activities, and on the other hand, there are software developers, who integrate specific application programs into a process, and other stakeholders, who, e.g., evaluate the business process. The business process and its model allow all stakeholders to develop a common understanding of business operations. A business process model is the basic pattern, according to which process instances for specific situations are generated. For instance, a model of the process ‘business trip application’ describes how the process works in principle, while a → process instance of the process denotes the actual execution of a business trip application of an employee according to the model.

Model Description Language

A model description language consists of a reservoir of symbols (e.g., graphical, mathematical, and natural-language characters) and a syntax for their permissible combination. On the semantic level, → modeling conventions provide for a uniform interpretation.

A modeling language exists that everyone is capable of mastering and which is generally sufficient for an initial description of business activities: the natural language. Its advantage is that it is familiar to everybody, and can be immediately understood and used by all. Task or process descriptions are therefore almost always created in their first version in natural language, enriched with diagrams.

Modeling

In general, modeling is seen as a representation which reduces the complexity of a certain part of perceived reality by using a → Model Description Language. Business process modeling is intended to capture, present, reflect, and (further) develop matters that are relevant to business processes. It is essentially meant to (re)present, which subjects (humans, machines as actors) perform what activities (tasks, functions) on which objects (usually information bound to specific carriers), using what tools (e.g., IT systems), and how they interact, in order to achieve the desired process goals and results. In the S-BPM approach, the subjects are representatives for participating agents in a process, and are as such in the center of attention. The model is constructed along the following steps in which the associated level of detail increases moving forward:

* Identification of processes in an organization: The result is a process map with the processes and their interrelationships.
* Specification of the communication structure: On the basis of the identified subjects and their interactions, in this step, the communication structure of a business process, including the messages exchanged between the subjects, can be determined (→ Subject Interaction Diagrams).
* Specification of the behavior of the subjects involved in the process: Here the work steps of the subjects and the set of rules to follow thereby are specified (→ Subject Behavior Diagrams).
* Description of the information that all subjects involved in the process edit locally and mutually exchange via messages (→ Business Objects).

Modeling by Construction

This modeling method of construction is a commonly known procedure: The starting point is a process in which nothing is initially clearly defined. It begins with a ‘blank sheet of paper’, and then a process model is successively built. The involved subjects, their activities, and business objects need to be introduced step by step. When designing a process model, the → Actors start with the ‘blank sheet of paper’ already mentioned. Using the results from analysis, the process can be described step by step according to the following structure:

* Description of processes and their relationships (→ Process Network)
* Identification of the process to be described
* Identification of the subjects involved in the process
* Identification of the messages exchanged between the subjects
* Description of the behavior of the individual subjects
* Definition of business objects and their use

These activities need not be carried out in a strictly sequential way. It can occur, e.g., that it is recognized during the description of the behavior of subjects that messages need to be added or removed later on. In this way, the process model is continuously expanded. Model development by construction is also common to other modeling techniques, such as UML, BPMN, and EPCs. With these it is, however, the only possible course of action, while subject orientation additionally allows → modeling by restriction.

Modeling by Restriction

Starting point here is a "world" of subjects that can do everything at first and are able to communicate with all other subjects. Modeling starts with an open model in which all communication links between subjects are possible. The starting point for modeling by restriction corresponds to a picture in which everybody using modern communications technology can exchange any information with any partner at any place anytime. In S-BPM, the world before modeling by reduction is a "universal process", where everyone communicates with everyone. This process is restricted more and more in its possible sequences until the desired process is present. This is done by gradually omitting those components which are not needed for accomplishing the task. The method of reduction is possible only with subject orientation.

Modeling Convention

With the help of modeling conventions, the diagram types, elements, attributes to be detailed, the graphic layout, etc., to be used for modeling in an organization or a project, are defined. This ensures that even different modelers create uniform models that are suitable for each specific modeling purpose.

Monitoring

The collection and compilation of data from running processes to support decision making in case of deviation from a predefined target behavior is the subject of monitoring. A permanent, real-time monitoring of process efficiency in the key dimensions of quality, time, and cost may counteract such developments and also often allow identifying opportunities for improvement. Usually, IT systems with appropriate functionality record values ​​for suitable key performance indicators, compare them with predetermined target values, report deviations outside of tolerance limits, and so provide the basis for an analysis of root causes and subsequent actions. Addressees of the recorded data and exception reports are initially the work performers as → Actors, and the → process owner as → Governor who interpret the results and take appropriate action. Process monitoring, which is also referred to as Process Performance Measurement or operational process control, represents the logically last→ bundle of activities of the open S-BPM development cycle. Since a value recorded in the course of ongoing operations is usually interpreted spontaneously by the addressee, monitoring is linked very closely to the activity bundle of → analysis. It is an essential part of Process Performance Management (PPM), which deals with the planning, measurement, evaluation, and control of business processes. PPM in turn is part of a company-wide Corporate Performance Management (CPM) referring to the overall business performance.

Multi-Process

A multi-process is a set of similar processes that run independently. The actual number of independent sub-processes is only determined at runtime.

Natural Language

Natural languages ​​are used for communication between people. Natural languages ​​have three major semantic components. These are the subject of an action as a starting point, the predicate as the performed action, and the object as the target of the action. These three elements define a complete sentence using the proper standard sentence semantics. This facilitates the description of → business processes: In processes, there are also actors who perform actions on certain objects.

Normalization

Normalization determines, on the one hand, the coarsest grain description of a process, and on the other hand, the minimum granularity for process descriptions. The normalization of → subject behavior is also needed to determine the observable external behavior of a process.

Organizational Structure

The organizational structure of an organization determines organizational units, such as departments and job positions, as well as authorizations and decision-making responsibilities. It forms the complement to the → operational structure of an organization.

Organization-Specific Implementation

A process not only needs to be implemented technically, but also introduced into the organization. In doing so, abstract → subjects are assigned to concrete persons, the → subject carriers, and → activities become → concrete tasks of employees.

Open loop S-BPM → S-BPM-PROCEDURE MODEL

Operational Structure

The operational structure of an organization comprises the processes for managing work (business processes). It can be considered complementary to the → organizational structure.

Optimization

In the framework of optimization, the efficiency of processes is the focus of the activities. Optimization includes a systematic approach for the collection of measurements and for their subsequent analysis with regards to the organization's goals. In principle, each of the → S-BPM stakeholders could contribute to optimization efforts with different methods.

Procedure Model → S-BPM PROCEDURE MODEL

Process Controlling

Process control encompasses all activities aimed at strategic and operational monitoring and control of → business processes.

Process Costs

Process costs denote the effort required for executing a → process instance. In process cost accounting, the costs of individual process activities are associated with execution units. A differentiation is made here between performance volume-induced costs and performance volume-neutral overheads. Volume-neutral overheads are basic costs incurring for a process at all times. Volume-induced costs are instance-based and play a role only when executing the process.

Process Implementation → INFORMATION TECHNOLOGY (IT) IMPLEMENTATION → ORGANIZATION-SPECIFIC IMPLEMENTATION

Process Instance

A process instance, in contrast to a process model, is an executed occurrence of the modeled process. It comes into being when a business transaction of the associated type is triggered at runtime.

Process Model → MODEL

Process Modeling → MODELING

Process Monitoring → MONITORING

Process Network Diagram (PND)

Process network diagrams show only processes linked in a process network, and the messages exchanged across their borders. They compress → Subject Interaction Diagrams with mutual references between → interface subjects or → external subjects.

Process Networks

By linking subjects of different processes, complex process networks can be built. Relations are expressed by mutually referencing → interface subjects and → external subjects.

Process Optimization → OPTIMIZATION

Process Owner

The process owner denotes a role, position, or person that is responsible for a process within the organization. Process ownership is valid across functional borders or lines in organizational structures.

Process Performance Management → MONITORING

Process Validation → VALIDATION

Reporting

Reporting covers the preparation, delivery, and distribution of → monitoring results in the form of reports. For the presentation of results, conventional tables and graphical means, such as executive dashboards or cockpits, are used.

S-BPM → SUBJECT-ORIENTED BUSINESS PROCESS MANAGEMENT

S-BPM-Bundle of Activities → ACTIVITY BUNDLE

S-BPM Methodology → S-BPM PROCEDURE MODEL

S-BPM Procedure Model

The procedure for the implementation of subject-oriented business processes is described as S-BPM-procedure model. The objects of concern of the procedure model are business processes that are designed along the → activity bundles → analysis, → modeling, → validation, → optimization, → organization-specific implementation, → IT implementation, operation, and → monitoring. The activity bundles in S-BPM are usually performed in an open loop, controlled by the → S-BPM stakeholders in a situation-sensitive way.

S-BPM Stakeholders

Stakeholders are the actors in the → S-BPM procedure model. In a sense, in S-BPM they are meta-subjects driving the design process. Caretakers, drivers, and managers (→ Governors) create the conditions under which → Actors perform operational work, potentially in collaboration with → Experts. → Governors are also responsible for organizational development. The respective stages of development are supported by organizational development guides (→ Facilitators), potentially also involving experts. S-BPM provides no hierarchical structure of the stakeholders. It therefore requires no explicit management structures. In addition, in S-BPM the classical distinction between business and IT is dissolved. Representatives from both areas can be found in all roles.

S-BPM Tools

The following tools supporting the → S-BPM procedure model were currently available at the time this book was published: jBOOK is a documentation tool to support subject-oriented analysis. jSIM can be used to simulate processes based on subject-oriented models on the computer. The Metasonic Suite encompasses a range of tools: The module "Build" supports the modeling of subjects, their behavior, their interactions, and the thereby exchanged messages and business objects, "Proof" enables distributed, computer-aided validation, and "Flow" controls as a process engine the execution of instances with all of the participants involved in the process. The base module includes among other things the "Usermanager", which can be used by those responsible for organization-specific implementation for the assignment of users to roles and subjects.

Service

Subjects use services to communicate with other subjects, or to access → business objects. In S-BPM, a service is closely linked to a subject. Hence, a → service-oriented architecture can also be constructed according to subject-orientation.

Service-Oriented Architecture (SOA)

Service-oriented architectures describe software systems, which are composed of loosely coupled function components (services). Each service takes clearly defined technical tasks and encapsulates application logic and data. The entire logic of a business application can thus be distributed to many independent services. The individual services can be reused in different contexts.

Service Process

A service process is a process that has a defined result and can be used by several other processes for service provision. On the side of the service process, coupling to the calling process occurs via a so-called general- external subject which represents all potential processes using the service process. Within the calling process, the → interface subject is used as an → external subject.

States

For subjects, we distinguish between action states for accomplishing a task (function state), and communication states for interacting with other subjects (receive and send). Such a consideration leads to three different types of states for subjects:

* Performing functions (function state)
* Sending messages (send state)
* Receiving messages (receive state)

Subject

Subjects represent humans or technical systems, such as machines or computer programs, with a particular behavior. As actors in defined roles they perform their individual tasks and interact with each other in order to structure and coordinate their joint activities to achieve the desired process result. Normally, they use appropriate tools, as well as information and business objects which they access for reading or writing, and which they exchange. Subjects have an identifier referring to each specific process and a corresponding → subject behavior.

Subject Behavior

The actions of a subject in a process are called subject behavior. → States and transitions describe what actions it performs and their associated interdependencies. Besides the communication actions send and receive, a subject performs so-called internal actions / functions.

Subject Behavior Diagram (SBD)

The complete behavior of a subject is described in the subject behavior diagram (SBD). It consists of → states and transitions.

Subject Carrier

As part of the → organization-specific implementation, abstract subjects are assigned to specific persons, the so-called carrier subjects.

Subject Class

A subject class is an abstract subject which is assigned a certain subject name at process execution time.

Subject Interaction Diagram (SID)

A Subject Interaction Diagram illustrates the interaction relationships between the → subjects involved in a process. These are the → messages being exchanged between the subjects. Such messages may, if necessary, contain structured information, so-called → Business Objects. The result is the Subject Interaction Diagram (SID) as a structured model for subjects with explicit communication relationships, which is synonymously referred to as the Communication Structure Diagram (CSD).

Subject Orientation

Subject orientation is understood in S-BPM as the alignment of business processes to actors, or executing IT components, which in the course of business activities are linked to other subjects by means of communication relationships. It establishes a consistent → S-BPM procedure model. The focus is on the collaborating participants in processes and owners of processes, sharing in a globally networked structure the knowledge of a company. Thus, S-BPM is a holistic approach to development of organizations – and this against the background of processes that can very easily be integrated in subject-oriented form into complex and heterogeneous IT landscapes.

Subject-Oriented Business Process Management (S-BPM)

S-BPM puts the subject of a process at the center of attention. Hence, business processes and their organizational environment are considered from a communication perspective of the involved actors.

Subject-Oriented Description of a Process

The subject-oriented description of a process starts with the identification of process-specific roles involved in the process, the → subjects, and the → messages exchanged between them. When sending messages, the data required by the receiver is transmitted as simple parameters or more complex → Business Objects. In a further refinement step, it is described which activities and interactions the subjects are performing for completing the process and in which order, i.e., the → subject behavior of individual subjects is defined. For each subject, the sequence is specified in which it sends and receives messages, and executes internal operations, as well as in what → associated states it is in(send, receive, function state). Each state and transition in a subject description is finally assigned to an operation , without further detailing it at that point in time.

Subject-Oriented Model

The essential elements of a subject-oriented model are:

* Subjects involved in the process
* Interactions occurring between them
* Messages they send or receive in every interaction
* Behavior of individual subjects

The description of a subject determines the order in which it sends and receives messages, or performs internal functions. Its behavior thus defines the order in which the subject triggers which predicates (operations). This may be the standard predicates sending or receiving, or other predicates that are defined on the corresponding objects.

Subject-Predicate-Object in Modeling

Depending on the essential model elements, different approaches to modeling can be used in the course of defining business processes. Around these essential elements, accidentals are grouped. The following aspects of modeling in software development are currently being used:

* In functional approaches, functions are central. Examples of function-oriented models are control flow diagrams and data flow diagrams according to deMarco, or event-driven process chains (EPCs).
* In data-oriented approaches, accidentals are grouped around data. A well-known example of data-driven modeling approaches are Entity-Relationship diagrams.
* In object-oriented approaches, accidentals are grouped around objects. Objects in computer science are data structures and the operations on these data structures.

The object-oriented modeling approach is currently considered to be the most accepted one. A well-known method of description is the Unified Modeling Language (UML).

Task

A task is a work step carried out by a → subject carrier in the course of its → subject behavior in a specific → process instance.

Validation

In process management, validation is considered as a review of whether a business process is effective, i.e., of whether its expected result is delivered in the form of a product or service. This understanding corresponds to ISO 9001’s (processes of production and service provision) required proof that a process is capable of meeting the required specifications and quality attributes. As an output of a process, not only the process result from the customer perspective is considered, but also its contribution to the implementation of corporate strategy, i.e., its value proposition. The validation should ensure that the process meets its requirements ("doing the right things"). In addition, the specification of process results and procedures, as acquired and specified in the course of analysis and modeling, should enable an organization to meet its objectives related to the process. It differs from → optimization, where the goal is to improve the efficiency of the model through simulation ("doing things right"). Otherwise, validation and optimization may coincide. Thus, in practice, at a validation workshop, recognized optimization approaches are usually also considered.

Workflow

When implementing IT support, a business process needs to be represented as a workflow. This consists of a detailed specification of a process from an IT perspective. A workflow is a:

* formal description of
* activities which
* communicating actors (roles / persons, embedded IT systems) perform
* in a partially or completely automated way on
* objects (inputs and outputs, including data structures)
* in compliance with business rules and
* controlled by the business logic.

Hence, a workflow is a refinement of the purely functional business process for the implementation of the corporate strategy (what?), in terms of IT support (how?).