

# Business Process Management

## Chapter 1 Introduction to Business Process Management

Business Process Management (BPM) is the discipline of overseeing organizational workflows to ensure consistent outcomes and capitalize on improvement opportunities. It focuses on managing entire chains of events, activities, and decisions—referred to as *processes*—rather than individual tasks. Improvement objectives often include cost reduction, faster execution, and lower error rates.

### 1.1 Processes Everywhere

Organizations rely on processes to deliver products or services. Common process types include:

- **Order-to-cash:** From customer order submission to delivery and payment.
- **Quote-to-order:** starts from the point when a supplier receives a “Request for Quote” (RFQ) from a customer and ends when the customer in question places a purchase order based on the received quote.
- **Procure-to-pay:** From identifying a purchase need to payment fulfillment.
- **Issue-to-resolution:** From customer complaint to resolution.
- **Application-to-approval:** From application submission to approval/rejection.

These processes impact service quality, efficiency, and competitiveness.

#### Example

*BuildIT is a construction company specialized in public works (roads, bridges, pipelines, tunnels, railroads, etc.). Within BuildIT, it often happens that engineers working at a construction site (called site engineers) need a piece of equipment, such as a truck, an excavator, a bulldozer, a water pump, etc. BuildIT owns very little equipment and instead it rents most of its equipment from specialized suppliers.*

*The existing business process for renting equipment goes as follows. When site engineers*

*need to rent a piece of equipment, they fill in a form called “Equipment Rental Request” and send this request by e-mail to one of the clerks at the company’s depot. The clerk at*

*the depot receives the request and, after consulting the catalogs of the equipment suppliers,*

*selects the most cost-effective equipment that complies with the request. Next, the clerk checks the availability of the selected equipment with the supplier via phone or e-mail.*

*Sometimes the selected option is not available and the clerk has to select an alternative piece of equipment and check its availability with the corresponding supplier.*

*Once the clerk has found a suitable piece of equipment available for rental, the clerk adds*

*the details of the selected equipment to the rental request. Every rental request has to be*

*approved by a works engineer, who also works at the depot. In some cases, the works engineer rejects the equipment rental request. Some rejections lead to the cancellation of*

*the request (no equipment is rented at all). Other rejections are resolved by replacing the*

*selected equipment with another equipment—such as a cheaper piece of equipment or a*

*more appropriate piece of equipment for the job. In the latter case, the clerk needs to perform*

*another availability enquiry.*

*When a works engineer approves a rental request, the clerk sends a confirmation to the supplier. This confirmation includes a Purchase Order (PO) for renting the equipment. The*

*PO is produced by BuildIT’s financial information system using information entered by*

*the clerk. The clerk also records the engagement of the equipment in a spreadsheet that is*

*maintained for the purpose of tracking all equipment rentals.*

*In the meantime, the site engineer may decide that the equipment is no longer needed. In*

*this case, the engineer asks the clerk to cancel the request for renting the equipment.*

*In due time, the supplier delivers the rented equipment to the construction site. The site engineer then inspects the equipment. If everything is in order, the engineer accepts the engagement and the equipment is put into use. In some cases, the equipment is sent back*

*because it does not comply with the requirements of the site engineer. In this case, the site*

*engineer has to start the rental process all over again.*

*When the rental period expires, the supplier comes to pick up the equipment. Sometimes,*

*the site engineer asks for an extension of the rental period by contacting the supplier via e-mail or phone 1–2 days before pick-up. The supplier may accept or reject this request.*

*A few days after the equipment is picked up, the equipment's supplier sends an invoice to the clerk by e-mail. At this point, the clerk asks the site engineer to confirm that the equipment was indeed rented for the period indicated in the invoice. The clerk also checks*

*if the rental prices indicated in the invoice are in accordance with those in the PO. After these checks, the clerk forwards the invoice to the financial department and the finance department eventually pays the invoice.*

## **Ingredients of a Business Process**

A business process comprises:

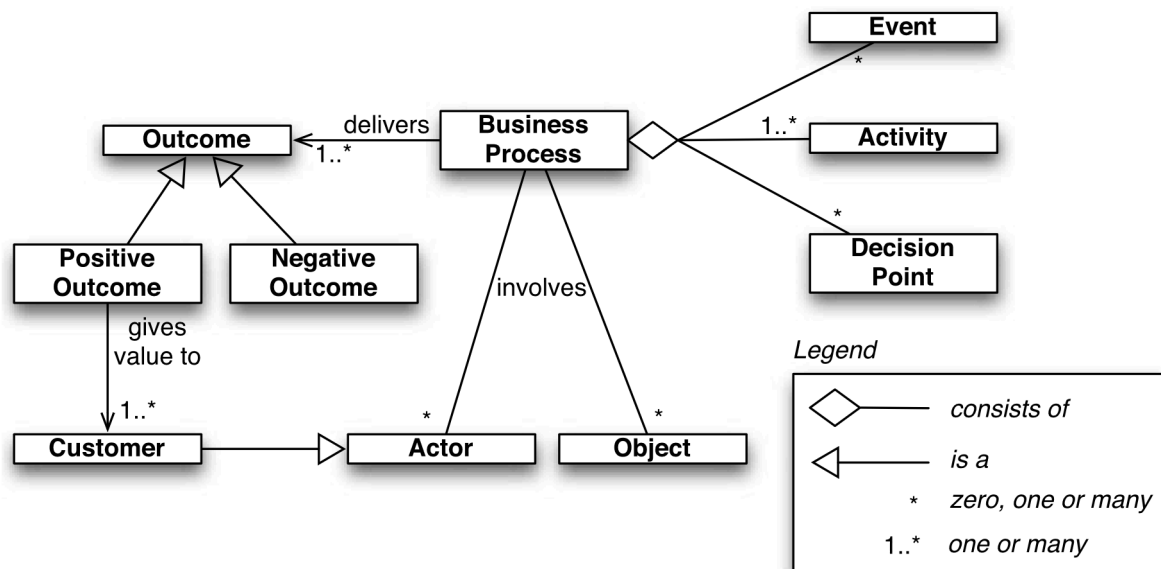
- **Events:** Atomic occurrences (e.g., equipment arrival) that have no duration.

- **Activities/Tasks:** Units of work with duration (e.g., equipment inspection).
  - Task - a single unit of work.
  - Activity - an activity of many steps
- **Decision Points:** Choices affecting process flow (e.g., accepting or rejecting equipment).
- **Actors:** Human or organizational participants (e.g., clerks, suppliers).
- **Objects:** Physical or digital artifacts (e.g., purchase orders, invoices).
- **Outcomes:** Results delivering value to customers (e.g., equipment usage, payment).

The customer—internal or external—consumes the process output and is central to evaluating success.

**Business process** - a collection of inter-related events, activities and decision points that involve a number of actors and objects, and that collectively lead to an outcome that is of value to at least one customer.

**Business Process Management** - a body of methods, techniques and tools to discover, analyze, redesign, execute and monitor business processes.



**Fig. 1.1** Ingredients of a business process

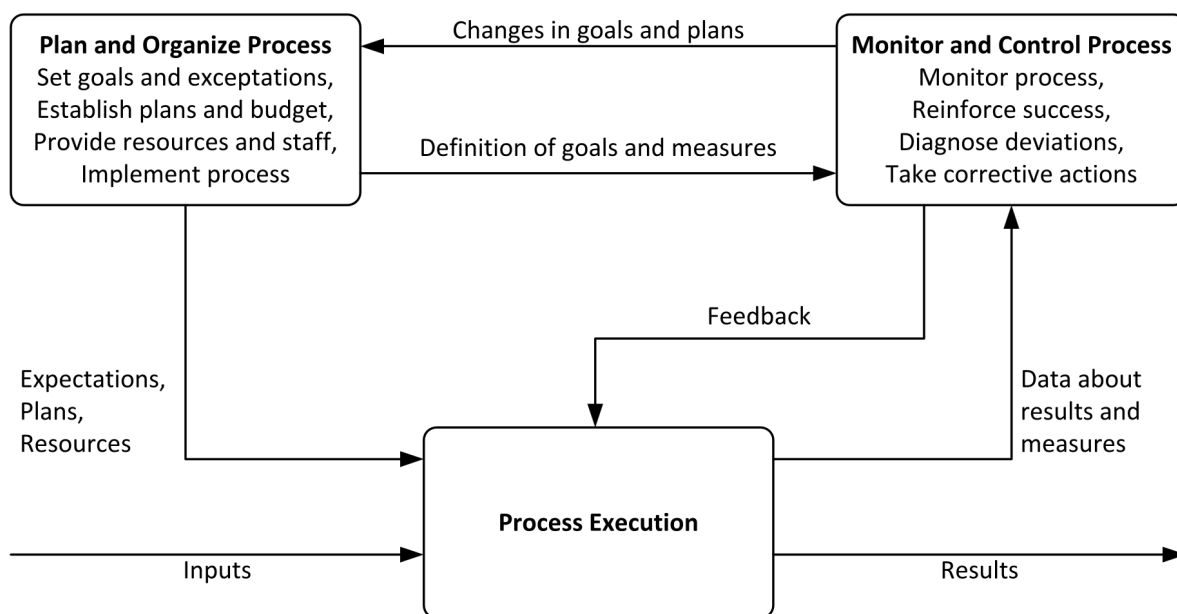
## 1.3 Origins and History of BPM

BPM emerged from historical shifts in organizational design:

1. **Functional Organizations:** Post-Industrial Revolution specialization led to siloed departments, optimizing local tasks but creating inefficiencies.
2. **Process Thinking:** Focus shifted to end-to-end processes. The Ford-Mazda case highlighted how cross-functional redesign (e.g., centralized databases) reduced redundancy.
3. **Business Process Re-engineering (BPR):** Radical redesign initiatives in the 1990s faced challenges like over-radicalism and technological limitations.
4. **BPM Evolution:** Integrated continuous improvement, performance measurement, and technology (e.g., ERP, workflow systems) to manage the entire process lifecycle.

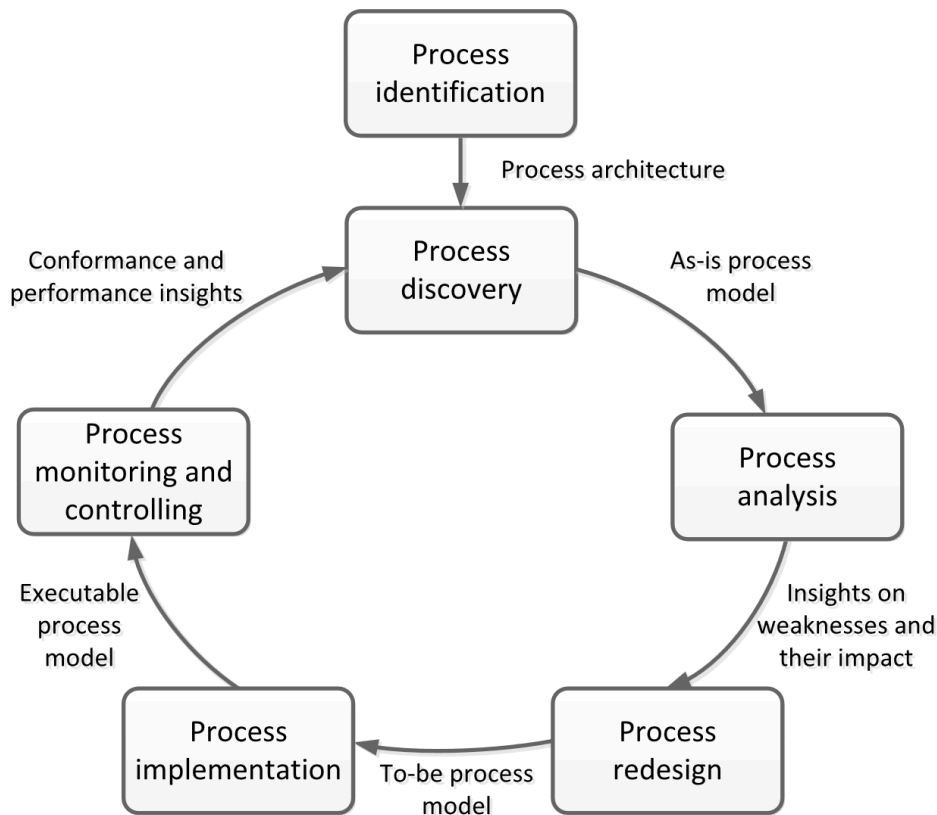
## 1.4 The BPM Lifecycle

**Process owner** - a manager responsible for a business process



**Fig. 1.5** Job functions of a manager responsible for a process (a.k.a. process owner)

BPM involves a continuous cycle of phases:



1. **Process Identification:** A business problem is posed, relevant processes (scope) are identified, delimited and related to each other (processes part of other processes).
  - a. Outcome: **process architecture** - a collection of processes and links between these processes.
2. **Process Discovery (AS IS process modeling):** Document *as-is* processes using models (e.g., flowcharts, cross-organizational flowcharts with swimlanes, UML activity diagrams, Event-driven process chains (EPCs), IDEF3, BPMN diagrams) for clarity and analysis.
3. **Process Analysis:** Identify and quantify issues (e.g., bottlenecks, rework) using performance data (performance metrics, e.g., cycle time, error rates). For example: Cost-related measures, time-related measures (cycle time), quality (error rates).
  - a. **Error rate** is the percentage of times that an execution of the process ends up in a negative outcome.
  - b. **Waiting time** - idle time.
4. **Process Redesign (Process Improvement):** Propose *to-be* processes to address issues, balancing trade-offs (e.g., automation vs. human oversight).

5. **Process Implementation:** Execute changes through organizational change management and IT automation (e.g., deploying BPMS).
  - a. **Organizational change management** refers to the set of activities required to change the way of working of all participants involved in the process.
  - b. **Process automation** refers to the development and deployment of IT systems (or enhanced versions of existing IT systems) that support the to-be process.
6. **Process Monitoring & Controlling:** Continuously track performance, adjust processes, and feed insights back into the lifecycle. Every good process eventually becomes a bad process”, unless continuously adapted and improved to keep up with the ever-changing landscape of customer needs, technology and competition

## STAKEHOLDERS IN THE BPM LIFECYCLE

There are different stakeholders involved with a business process throughout its lifecycle. Among them we can distinguish the following individuals and Groups.

- **Management Team.**
  - The CEO is responsible for the overall business success of the company.
  - The Chief Operations Officer (COO) is responsible for defining the way operations are set-up. In some companies, the COO is also responsible for process performance, while in other companies, there is a dedicated position of Chief Process Officer (CPO).
  - The Chief Information Officer (CIO) is responsible for the efficient and effective operation of the information system infrastructure. In some organizations, process redesign projects are driven by the CIO.
  - The Chief Financial Officer (CFO) is responsible for the overall financial performance of the company. The CFO may also be responsible for certain business processes, particularly those that have a direct impact on financial performance.
  - The Human Resources (HR) director.
- **Process Owners.** A process owner is responsible for the efficient and effective operation of a given process.
- **Process Participants.** Process participants are human actors who perform the activities of a business process on a day-to-day basis.
- **Process analysts** conduct process identification, discovery (in particular modeling), analysis and redesign activities. They coordinate process implementation as well as process monitoring and controlling.
- **System engineers** are involved in process redesign and implementation. They interact with process analysts to capture system requirements. They translate requirements into

a system design and they are responsible for the implementation, testing and deployment of this system.

- BPM Group (also called BPM Centre of Excellence). The BPM Group is responsible for preserving this knowledge and documentation and ensuring that they are used to meet the organization's strategic goals. Specifically, the BPM group is responsible for maintaining the process architecture, prioritizing process redesign projects, giving support to the process owners and process analysts, and ensuring that the process documentation is maintained in a consistent manner and that the process monitoring systems are working effectively.

## Related Disciplines

BPM integrates principles from:

- **Total Quality Management (TQM)** is an approach that both historically preceded and inspired BPM. The focus of TQM is on continuously improving and sustaining the quality of products, and by extension also of services. In this way, it is similar to BPM in its emphasis on the necessity of ongoing improvement efforts. But where TQM puts the emphasis on the products and services themselves, the view behind BPM is that the quality of products and services can best be achieved by focusing on the improvement of the processes that create these products and services.
- **Operations Management** is a field concerned with managing the physical and technical functions of a firm or organization, particularly those relating to production and manufacturing. Probability theory, queuing theory, decision analysis, mathematical modeling, and simulation are all important techniques for optimizing the efficiency of operations from this perspective.
- **Lean** is a management discipline that originates from the manufacturing industry, in particular the engineering philosophy of Toyota. One of the main principles of Lean is the elimination of waste, i.e. activities that do not add value to the customer
- **Six Sigma** is another set of practices that originate from manufacturing, in particular from engineering and production practices at Motorola. The main characteristic of Six Sigma is its focus on the minimization of defects (errors). Six Sigma places a strong emphasis on measuring the output of processes or activities, especially in terms of quality. Six Sigma encourages managers to systematically compare the effects of improvement initiatives on the outputs.



## Key Takeaways

- A **business process** is a structured chain of events, activities, and decisions that deliver value to customers.
- **BPM** encompasses methods to design, analyze, execute, and monitor processes across their lifecycle.
- Success requires balancing technological enablement with organizational alignment, emphasizing continuous adaptation.