ERP FUNDAMENTAL CONCEPTS

A process view of business

Business Process:

* Cuts across functional business areas.
* Involves exchange of *information*.
* May involve exchange of other *resources*.
* *Should* be accomplished in a manner that best accomplishes the desired outcome.
* May be progressively decomposed into sub-processes.
Information driving and within processes

Three classes of ERP data:

**Organizational data:** models the overall *structure* of an organization. Establishes *relationships*.
- A key element in ERP configuration is defining and mapping relationships between organizational entities.

**Master data:** person, place, or object defined for a specific organization level. *Stored centrally* and *shared* among business processes and applications.

**Transactional data:** data created as a result of business process steps.
- *Document principle*—data from various business processes is stored within "documents".

Organizational Levels within SAP ERP

**Client**—highest level within organization hierarchy. Contains all other organizational units.

**Company Code**—represents a distinct *legal entity*
- Smallest organizational unit for which a complete self-contained set of accounts can be drawn up for purposes of *external reporting*.
- Focal element in Financial Accounting.
- Generally does not span country borders.
- Client must contain at least one Company Code in order to be live.
Organizational Levels within ERPsim

**Plant**—organizational element where:

- Products and/or services are created.
- Materials are stored or distributed.
- Production planning is carried out.
- Service or maintenance is performed.

A plant can be a collection of buildings, an entire building, or part of a building.

A plant can belong to only 1 company code.

A company code can have 0 or more plants.
Organizational Levels within ERPsim

Master data

**Master Data**—non-organizational data that is shared among various business processes.

Examples: vendor data, customer data, material data.

Master data is **segmented** into **views**. Within a master data record, different processes and organizational levels need different information.
Master data example: Material Master

Material Master stores information on materials handled within a company. Different organizational processes and/or areas need different parts of Material Master record:

- **Procurement**—focus on buying
- **Sales**—focus on selling
- **Production**—focus on making
- **Accounting**—focus on recording information
- **Warehouse**—focus on storing
- **Basic Data**—relevant for all above and ones not shown

Material Master Views

![Material Master Diagram](image-url)
Master data

Master Data—non-organizational data that is shared among various business processes.

Master data is segmented into views. Within a master data record, different processes and organizational levels need different information.

Master data segments maintained by various organizational levels and processes.

The definition of data in a master data view may vary between organizational entities.

Material Master

Materials are categorized (and views maintained) by how they are used.

- **Raw materials** (ROH)—purchased from a vendor and used in production. Typically not sold to customers.
- **Semi-finished goods** (HALB)—typically produced in house and then later used in producing finished goods.
- **Finished goods** (FERT)—produced in house for sale.
- **Trading goods** (HAWA)—bought from vendor and sold without additional production necessary.
- **Non-valuated materials** (UNBW)—bought and tracked by quantity in inventory (not financial value) only.
**Transaction Data**

Transaction Data is created as a result of business process steps.

Combines organizational data, master data, and "situation data" i.e. data specific to the task (who, when, where, how much).

- **Organizational data**
  - Client
  - Company Code
  - Plant

- **Master data**
  - Customer
  - Vendor
  - Material

- **Situation data**
  - Who
  - When
  - Where
  - How much

**Documents**

Transaction data is stored within transaction documents.

All ERP transactions that write to the database generate documents.

Transactions may be reversed, but documents may not be deleted.

Some documents are printed (invoices, purchase orders, goods movements), others are virtual and may not ever been printed (payment received, goods movement). Document creation may trigger business processes or business process steps.
**Reporting**

*Reporting*: user's ability to view and analyze information needed to accomplish tasks.

- **Work lists**—tasks to be completed (picking due)
- **Online lists**—master data lists (materials, vendors)
  - Shown in list view, grid view, or ALV tree view
  - Can be exported to other applications

With ongoing production of documents and transaction data, ERP systems generate large volumes of data. Data must be accessible, but need not stay active in the production system. Movement to a data warehouse is typical.

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**Reporting within SAP ERP**

- **SAP ERP**
  - Online Transaction Processing (OLTP) Environment
  - Online Analytic Processing (OLAP) Environment
  - SAP BW
  - Lists
    - Reports
  - Analytics
Business Intelligence

SAP ERP

SAP CRM

SAP ...

SAP BW

Other

Non-SAP

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