Part II:

ERP into detail

Processes, approach and impact on the enterprise

IT Doesn’t Matter – Nicholas G.Carr

Harvard Business review, may 2003

Summary?

What does Nicholas G.Carr say? IT does not matter anymore as a critical investment to generate strategic business value and create distinctive competitive advantage.

Is he right?

What do you think?

Why?

ERP

MRP → MRP II → ERP

HOWEVER…
*Focus is internal
*Expansion is r[illegible]dent)
- CRM
- S[illegible]
- [illegible]

Remember this?

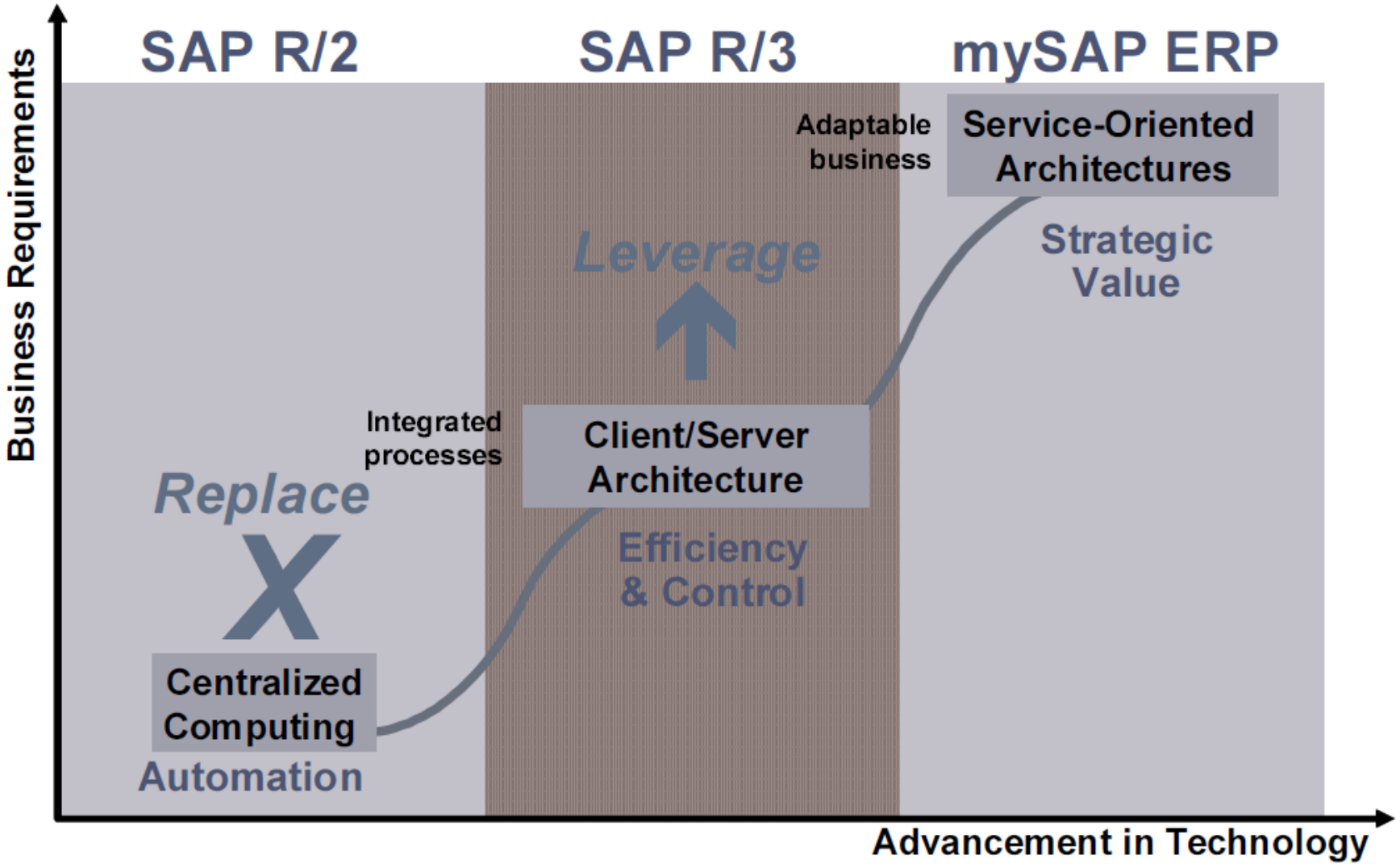
Vendors:

II. ERP Example– SAP

- Founded in 1972 by former IBM employees
- SAP = "Systems, Applications and Products in Data Processing“
- Versions:
  - R/1
  - R/2: Mainframe
  - R/3: 3 layer architecture (Data, Application, Presentation Client)
  - Current: ECC 607 (SOA enabled, BPM suite, mobility platform, OLTP in RAM, called HANA)

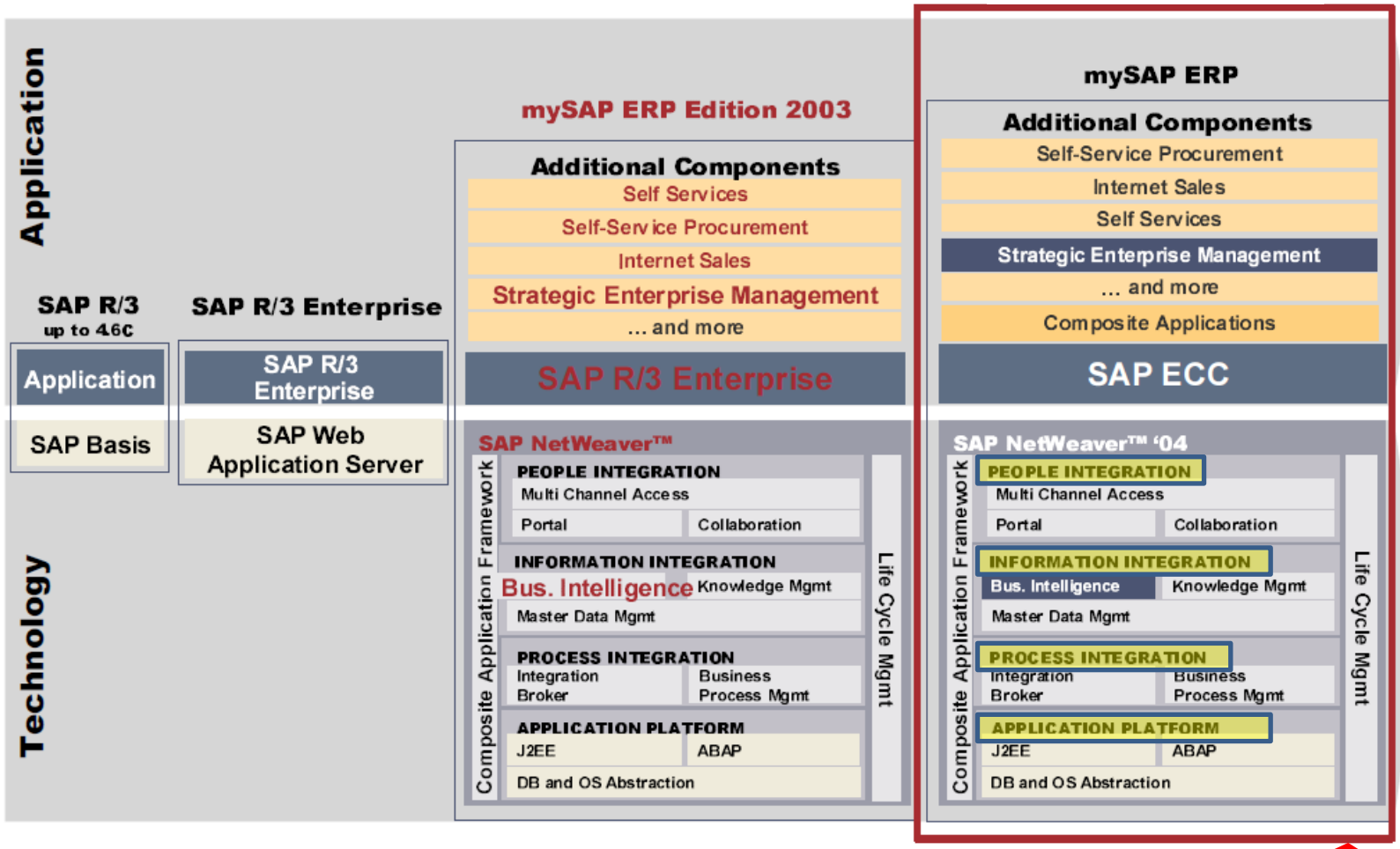
FYI

II. ERP Example – Evolution of SAP



Source: SAP

II. ERP Example – Evolution SAP



FYI

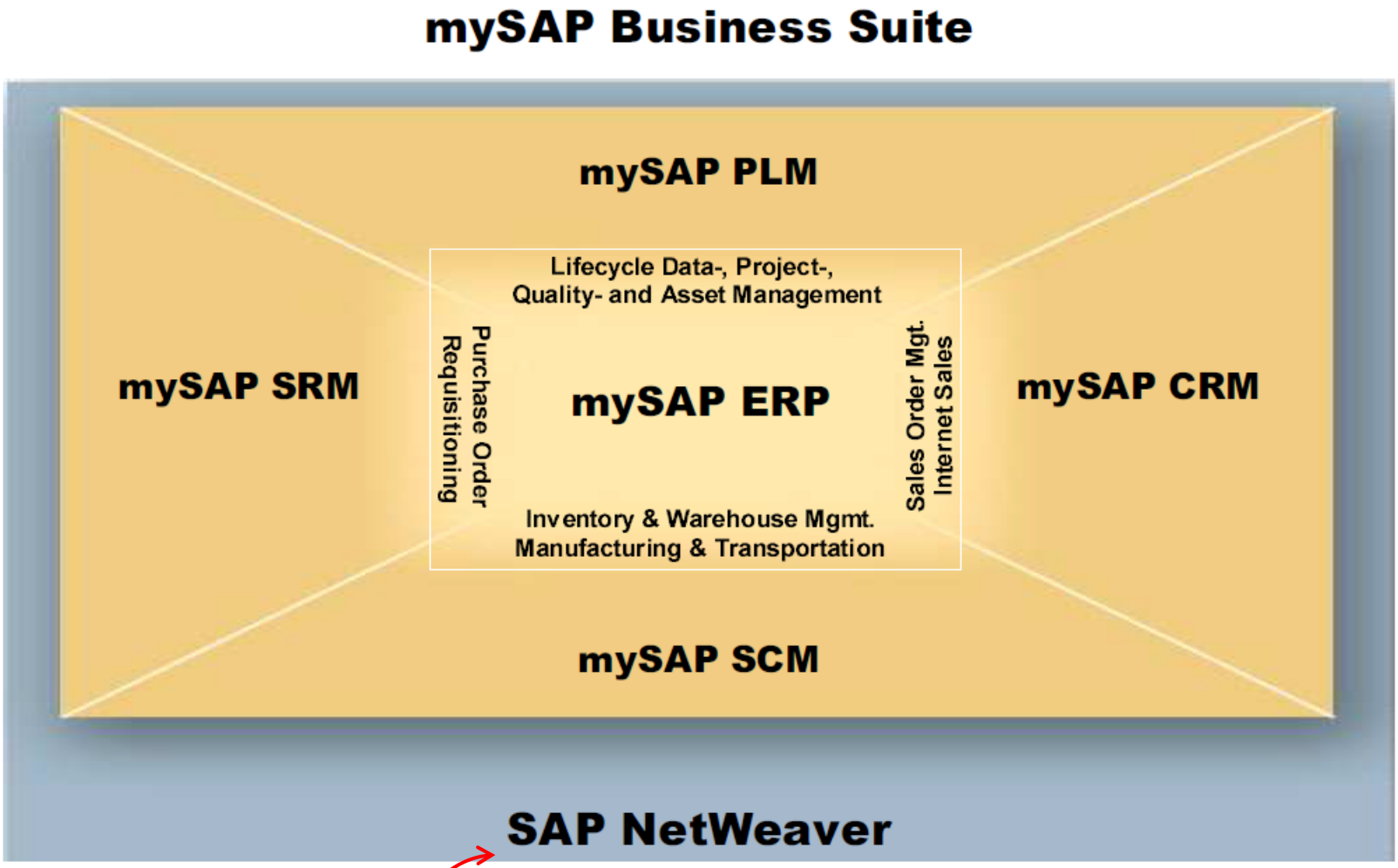
Source: SAP

II. ERP Example – SAP Integration

- People integration
  - Facilitate people/users to work together
- Information integration - Integration and distribution of data
  - Master Data
  - Knowledge management (process & task information)
  - BI
- Process integration
  - BPM
  - Integrated, end-2-end processes
- Application platform
  - Everything works together, on integrated technologies

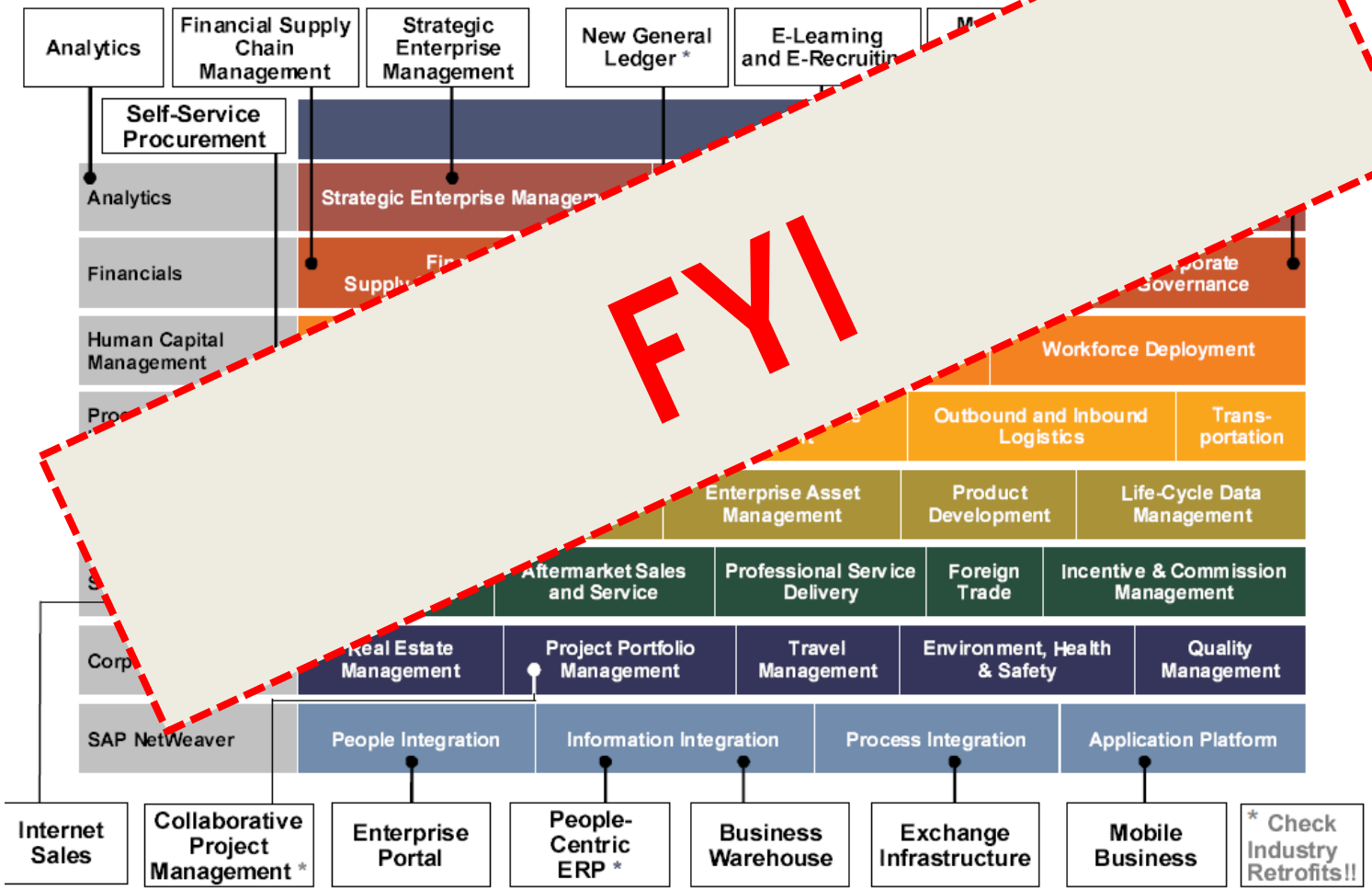
Source: SAP

II. ERP Example – SAP



Source: SAP

II. ERP Example – SAP's offering



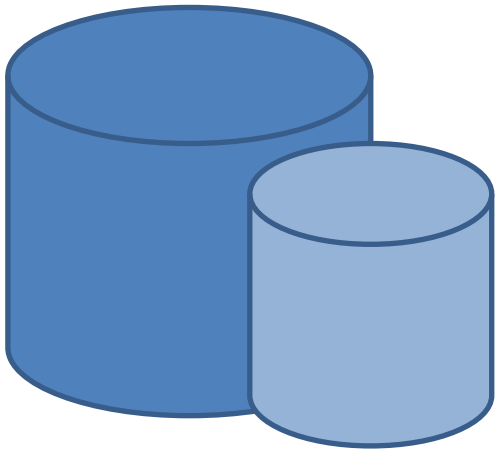
II. ERP – Different Types of DATA

DATA is information that is stored in an Information System

*Information on customers

*Information on products

*…



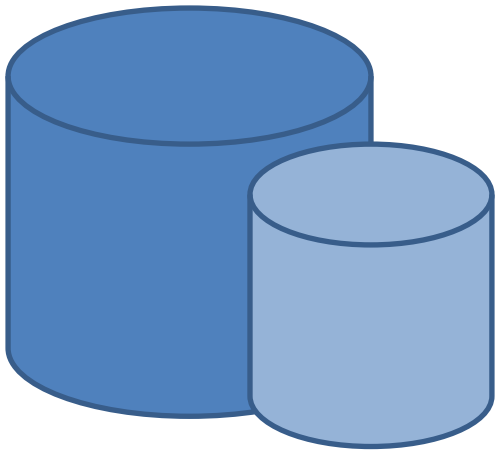
II. ERP – Different Types of DATA

We distinguish different types of Data in an ERP system:

*Master Data

*Transactional Data

*Parameters/System Data



II. ERP Into Detail – Master Data

Master Data is data related to objects that don't change often.

Examples:

Customers, Suppliers, Products, (Companies, Plants)…

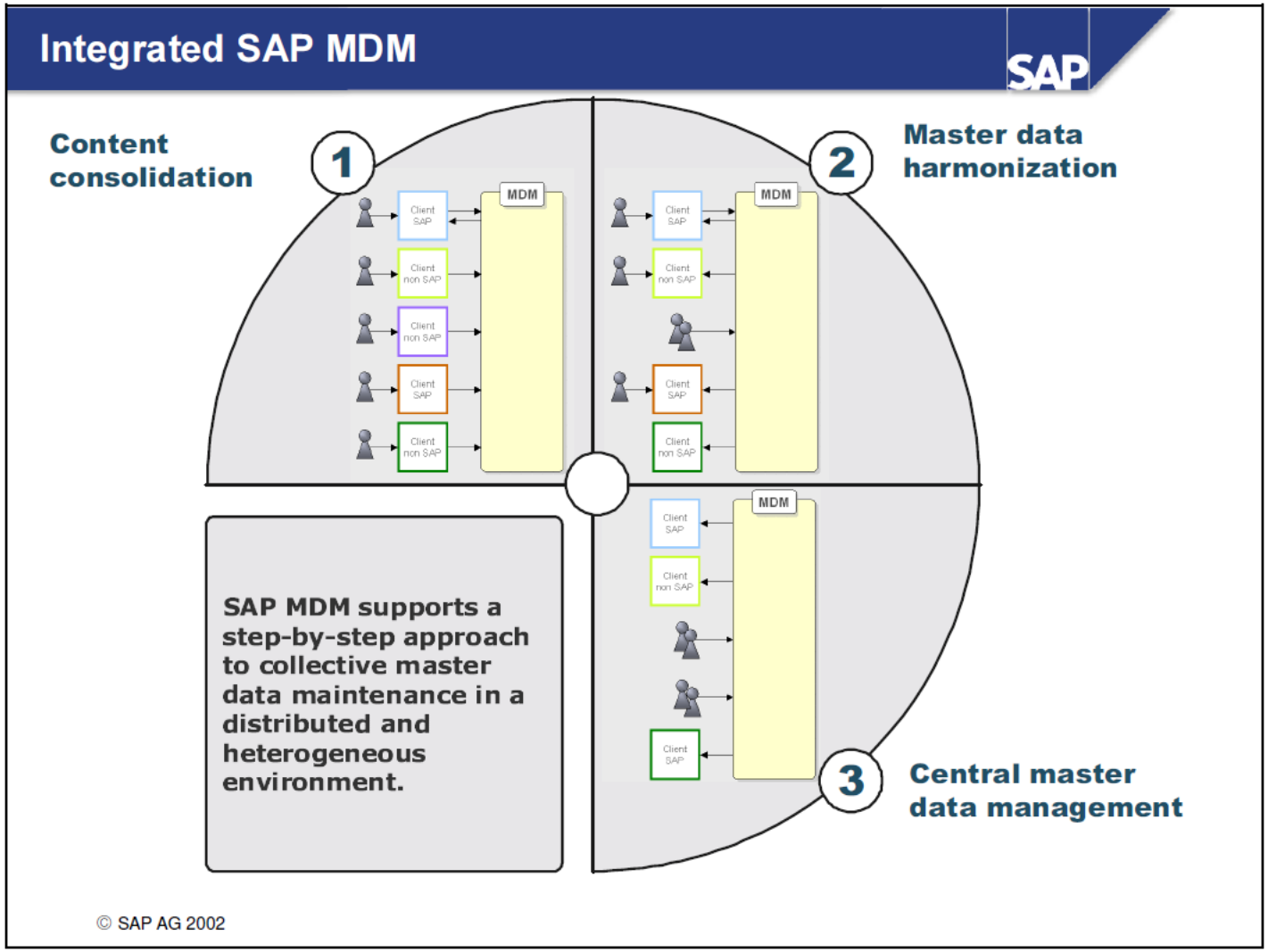
Master Data:

*Can have different segments/aspects (sales, financial…)

*Is best stored and managed centrally (Remember MDM?), so all systems speak the 'same language'

*Has a longer lifecycle in an organization

ERP Into Detail – Master Data Management



Source: SAP

ERP Into Detail – Master data manipulation
Example of master data manipulations

	Customer	Product	Asset	Employee
Create	Customer visit, such as to Web site or facility; account created	Product purchased or manufactured; SCM involvement	Unit acquired by opening a PO; approval process necessary	HR hires, numerous forms, orientation, benefits selection, asset allocations, office assignments
Read	Contextualized views based on credentials of viewer	Periodic inventory catalogues	Periodic reporting purposes, figuring depreciation, verification	Office access, reviews, insurance-claims, immigration
Update	Address, discounts, phone number, preferences, credit accounts	Packaging changes, raw materials changes	Transfers, maintenance, accident reports	Immigration status, marriage status, level increase, raises, transfers
Destroy	Death, bankruptcy, liquidation, do-not-call.	Canceled, replaced, no longer available	Obsolete, sold, destroyed, stolen, scrapped	Termination, death
Search	CRM system, call-center system, contact-management system	ERP system, orders-processing system	GL tracking, asset DB management	HR LOB system

Source: Microsoft

ERP Into Detail – Transactional Data

Transactional data is data that is created by using Master Data and completing **transactions**.

Transactional data has a shorter lifecycle (e.g. financial transactional data is only relevant for 1 Fiscal Year) and will normally run through a process only once.

Examples:

Sales documents

Financial Accounting documents

Purchase Orders

…

ERP Into Detail – System Data

System Data

*is data used by the system to function.

*doesn't change too often.

*is maintained by System Administrators

*is company dependent

Examples:

*What is the automatic impact on Financial Accounting in case of stock movements

*What is the minimum amount for a Purchase Order where approval of a manager is needed?

→ Many possible configurations exist

ERP Into Detail – SAP Example Full Cycle process

We discover a need to buy/purchase something!

Source: SAP

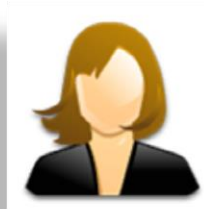
Example: Purchase Order to Payment

Process Flow & Roles:

Maintenance Team

Sr. Buyer

Warehouse



AP accountant

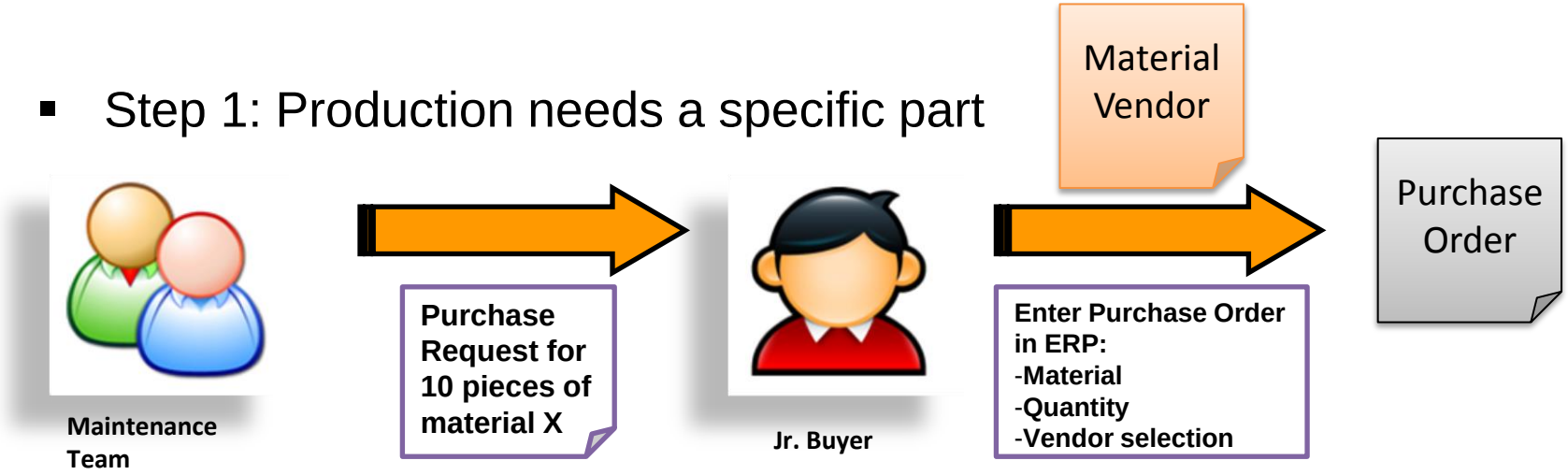
Controller

Jr. Buyer

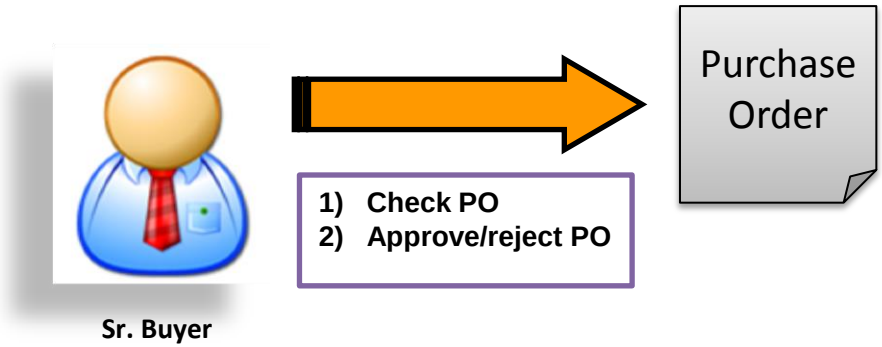
End2End processes have an impact on different departments and will involve different roles (and users)

Scenario part 1 – Step 1-2

- Step 1: Production needs a specific part



- Step 2: Sr. Buyer needs to approve



Impact on Management Accounting:

- Commitment after PO is sent to vendor

Scenario part 1 – Step 3-6

- Step 3: Warehouse receives the goods

Warehouse

1) Check Goods
2) Enter Goods Receipt

Check Purchase Order

Update Purchase Order

- Step 4-6: Accounting

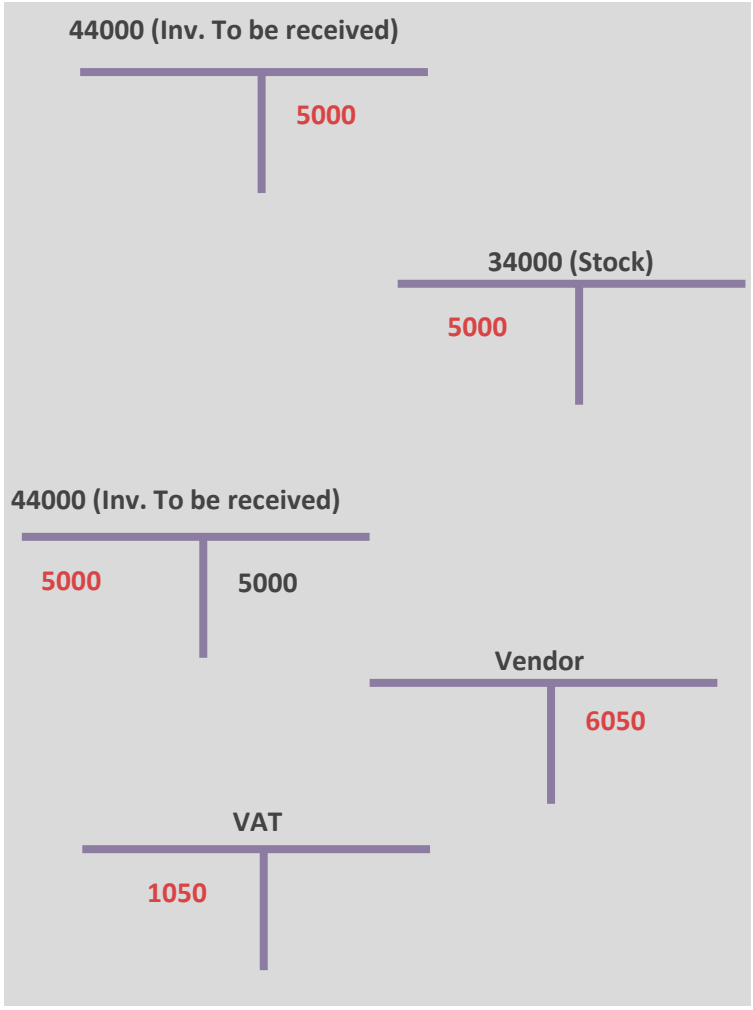
AP accountant

1) Receive the invoice
2) Check the accounting impact
3) Check AP impact

Check Purchase Order

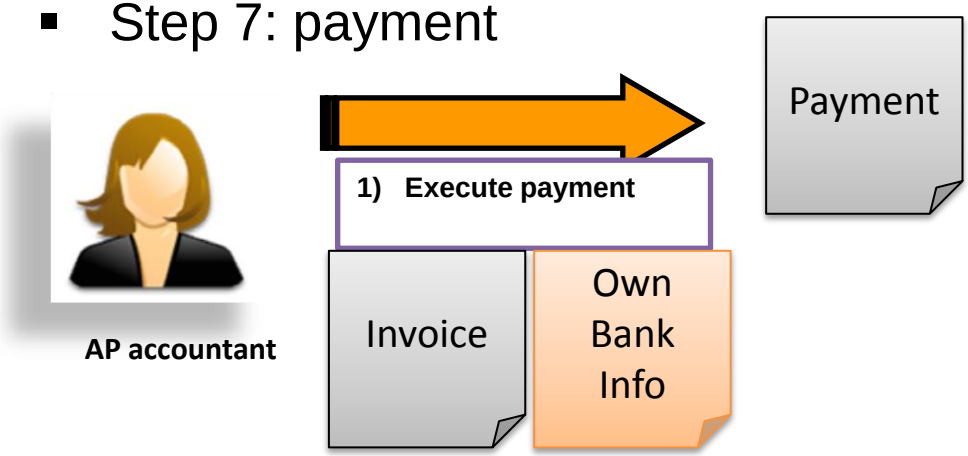
Vendor Invoice

Financial bookings are informational

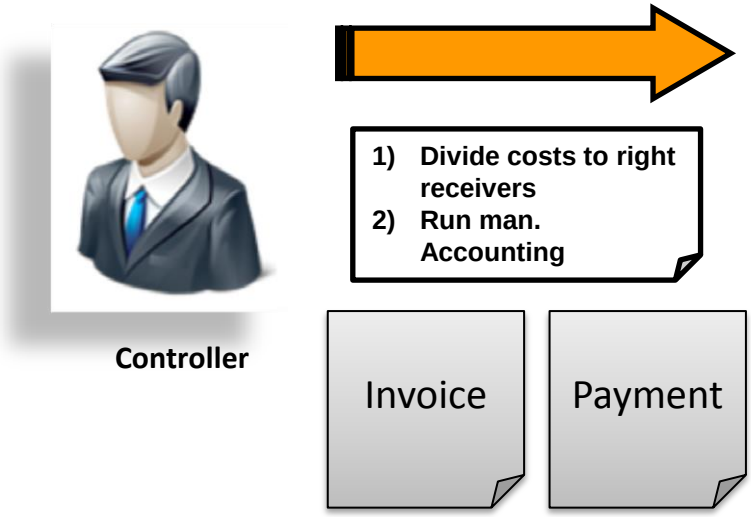


Scenario part 1 – Step 7-8

- Step 7: payment



- Step 8: Management Accounting

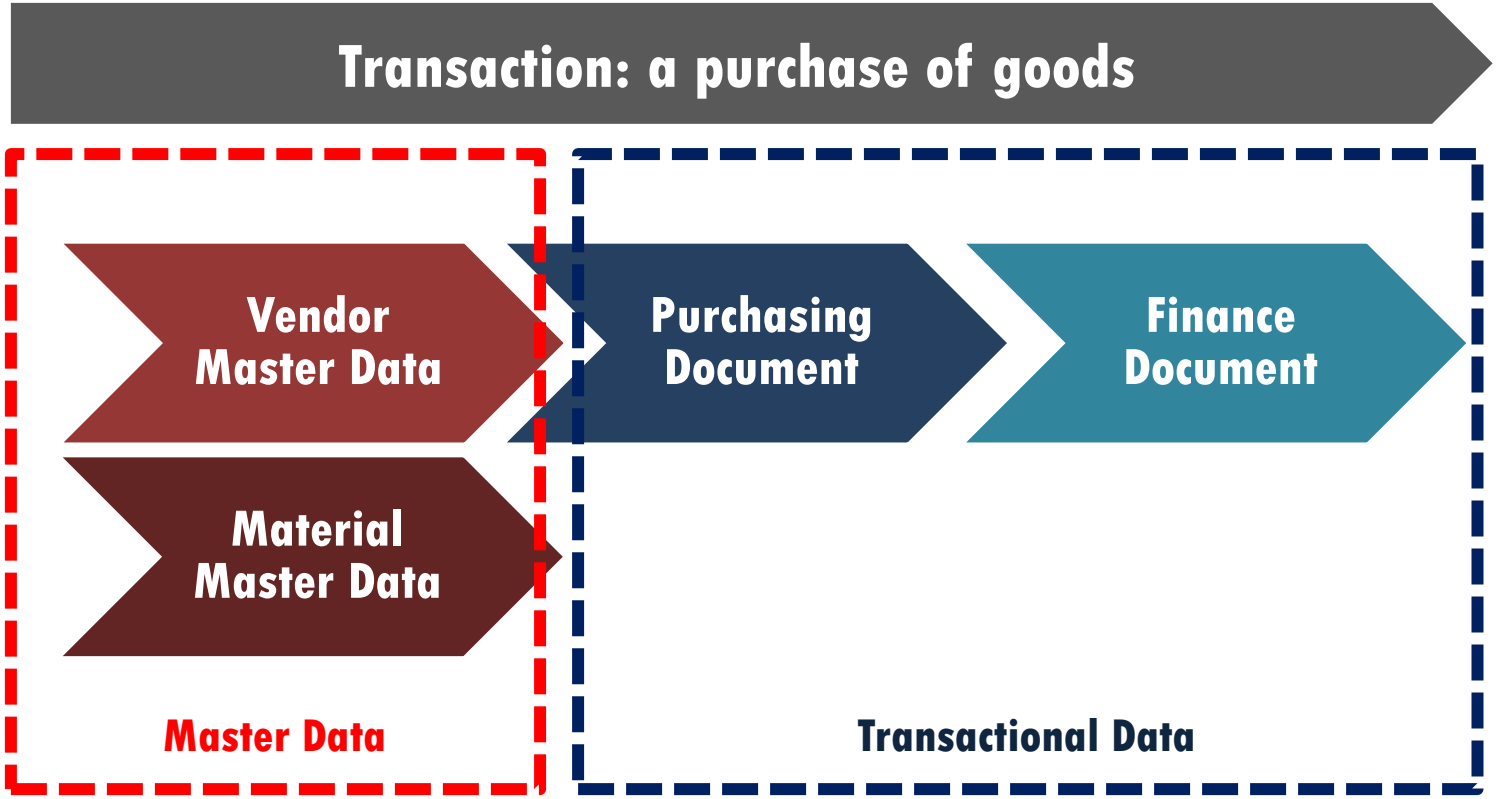


Financial bookings are informational

ERP– Table structure (concept) 1

- **2 types of data**
  - Transactional
  - Master data
- **Example (in general):**
  - Vendor Master Data
  - Material Master Data
  - Purchase document (transactional data)
  - Finance doc (transactional data)
  - Vendor items (transactional data)

ERP– Table structure (concept) 2



ERP – Table structure (concept) 3

- **Vendor Master Data**

Vendor	Country	Bank Account	Vendor name
A001	BE	000-0000030-30	Printshop X
A002	BE	…	Car Lease Y
A003	BE	…	Brewery Z

- **Material Master Data**

Material	Price	Weight	Cost account	Vendor
Flyer	€0,01	5 G	6XXXXX	A001
Ballpoint	€1	100 G	6YYYYY	A001
Box A4 paper	€15	2 KG	6ZZZZZ	A001

ERP – Table structure (concept) 4

- **Vendor Master Data**

Vendor	Country	Bank Account	Vendor name
A001	BE	000-0000030-30	Printshop X
A002	BE	…	Car Lease Y
A003	BE	…	Brewery Z

- **Material Master Data**

Material	Price	Weight	Cost account	Vendor
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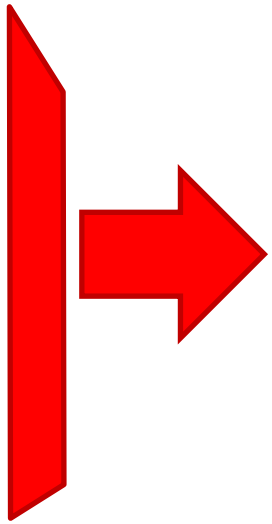
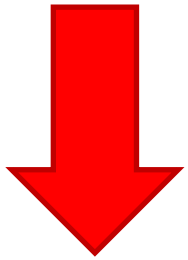


We create a new transactional document (Purchasing Document) using Master Data information



- **Purchasing Document P00001**

Doc Nr.	Year	Date	Vendor	Line	Quantity	Material
P00001	2011	01.02.11	A001	1	10	Ballpoint
P00001	2011	01.02.11	A001	2	2000	Flyer

ERP – Table structure (concept) 5

- **Purchasing Document P00001**

Doc Nr.	Year	Date	Vendor	Line	Quantity	Material
P00001	2011	01.02.11	A001	1	10	Ballpoint
P00001	2011	01.02.11	A001	2	2000	Flyer

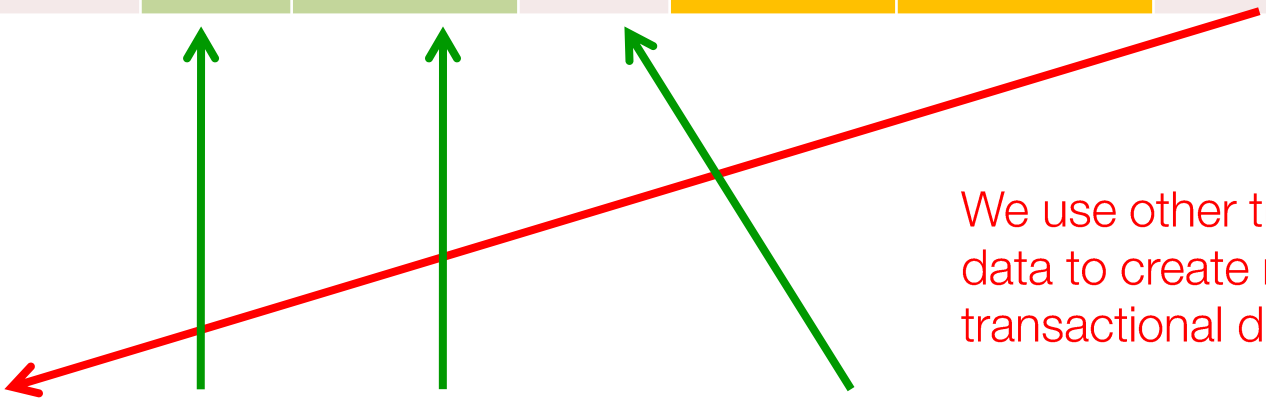
- **Generate Accounting Document A00001 → We need data!**

Doc Nr.	Year	Date	Line	Amount	Account	Ref. Doc
A00001	?	?	1	?	?	?
A00001	?	?	2	?	?	?

ERP – Table structure (concept) 6

- **Generated Accounting Document**

Doc Nr.	Year	Date	Line	Amount	Account	Ref. Doc
A00001	2011	01.02.11	1	?	?	P00001
A00001	2011	01.02.11	2	?	?	P00001



We use other transactional data to create new transactional data

Doc Nr.	Year	Date	Vendor	Line	Quantity	Material
P00001	2011	01.02.11	A001	1	10	Ballpoint
P00001	2011	01.02.11	A001	2	2000	Flyer

- **Original Purchasing Document (=Transactional data)**

ERP – Table structure (concept) 7

Doc Nr.	Year	Date	Line	Amount	Account	Ref. Doc
A00001	2011	01.02.11	1	€10	6YYYYY	P00001
A00001	2011	01.02.11	2	€20	6XXXXX	P00001

Original Purchasing Document

Doc Nr.				Line	Quantity	Material
P00001				1	10	Balpen
P00001				2	2000	Flyer

€1 x 10

€0,01 x 2000

Material Master Data →

Material	Price	Weight	Cost account
Flyer	€0,01	5 G	6XXXXX
Balpen	€1	100 G	6YYYYY
Box A4 papier	€15	2 KG	6ZZZZZ

ERP Into Detail – SAP example Full Cycle processes

Source: SAP