

MIS 5121: Business Processes, ERP Systems & Controls
Week 2: *Business Process – System Components, Assertions, Procure to Pay*

Video: Record the Class





Discussion

❖ Something really new, different you learned in this course in last week

**YOU LEARN
SOMETHING NEW
EVERY DAY**

❖ Questions you have about this week's content (readings, videos, links, ...)?



❖ Question still in your mind, something not adequately answered in prior readings or classes?

Control Failure: WorldCom

- Background:

- ❖ American communications – esp. discount Long Distance service
- ❖ Rapidly grew by acquisition – largest being MCI (challenging AT&T)
- ❖ CEO Bernard Ebbers very wealthy from stock price increases & company loans for personal investments (Canada ranch, timberlands, shipyard)
- ❖ ~ 2000 telecom industry was declining
- ❖ Failed merger with Sprint

- Control Failures: mid-1999 thru 2002

- ❖ Booked 'line costs' (interconnection expenses with other telecom companies) as capital \$\$ vs. expense
- ❖ Inflated revenue with bogus accounting entries from 'corporate unallocated revenue accounts'
- ❖ Disguised declining earnings



Control Failure: WorldCom



- Results / Outcomes:



- ❖ Internal auditors secretly met and found \$3.8 B in fraud, assets inflated by ~ \$11 B
- ❖ Arthur Andersen withdrew audit opinion for 2001
- ❖ Company went bankrupt in 2002 (largest at time – eclipsed by Lehman Bros)
 - ❖ Estimated loss of \$180B shareholder value
 - ❖ Layoff of 5,100 employees initially; 30,000 eventually
- ❖ Many executives indicted – some sentenced to prison
- ❖ Former directors settled class-action suit (\$18 M paid by directors themselves)
- ❖ Company reorganized as MCI – now absorbed into Verizon (2005)
- ❖ Inspiration for 'Fun with Dick and Jane' movie remake

- References / Links:

- ❖ http://en.wikipedia.org/wiki/MCI_Inc.
- ❖ <http://www.accounting-degree.org/scandals/>

External Financial Reporting regulations

Other
Reg's

Organization's
Objectives & Policies

Balance
Sheet

P & L

Notes

FDA etc.

Performance & Policies

Arise through

Must be observed / achieved in

Business Processes

Procurement

Production

Order to \$\$

Finance

IT

Quality

Logistics

HR

...

Contain

Assertions

- Completeness
- Existence, rights
- Accuracy
- Valuation
- Presentation

Risks

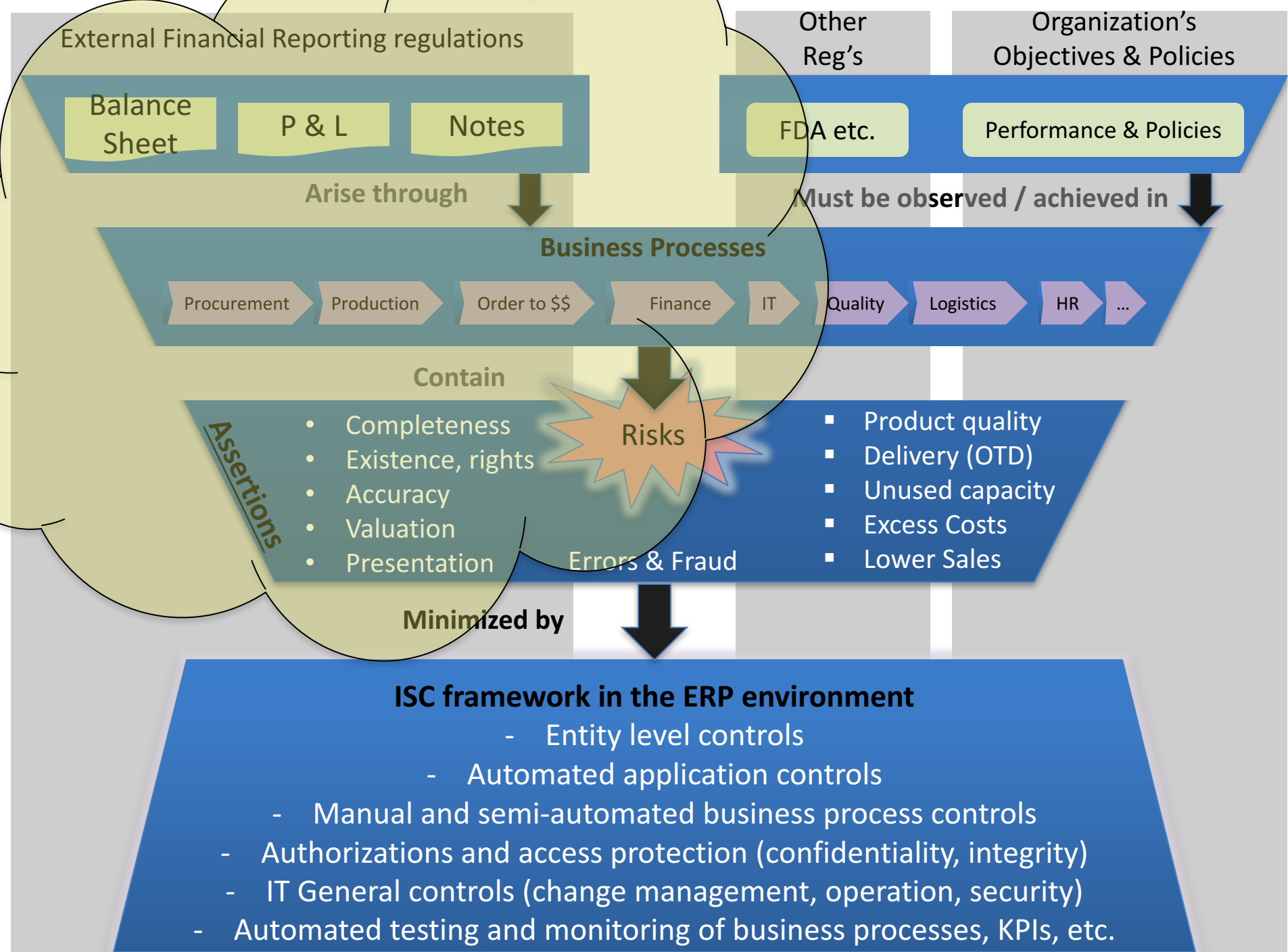
- Product quality
- Delivery (OTD)
- Unused capacity
- Excess Costs
- Lower Sales

Errors & Fraud

Minimized by

ISC framework in the ERP environment

- Entity level controls
 - Automated application controls
 - Manual and semi-automated business process controls
- Authorizations and access protection (confidentiality, integrity)
- IT General controls (change management, operation, security)
- Automated testing and monitoring of business processes, KPIs, etc.



Assertion

Definition

‘a confident and forceful statement of fact or belief’

Oxford Dictionaries



In Auditing: ‘what management claims’



The Accounting Equation

$$\text{Assets} = \text{Liabilities} + \text{Owner's Equity}$$

- Always True
- At all times
- Without Exception

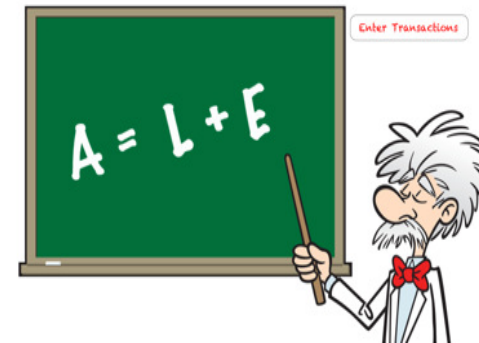


The Accounting Equation

$$\text{Assets} = \text{Liabilities} + \text{Owner's Equity}$$

- **Assets:** All Property Owned by Company
- **Liabilities:** All debts Company has outstanding
- **Owner's Equity (aka Shareholder's Equity):**
Company's ownership interest in its assets after all debts have been paid

$$\text{Assets} - \text{Liabilities} = \text{Owner's Equity}$$

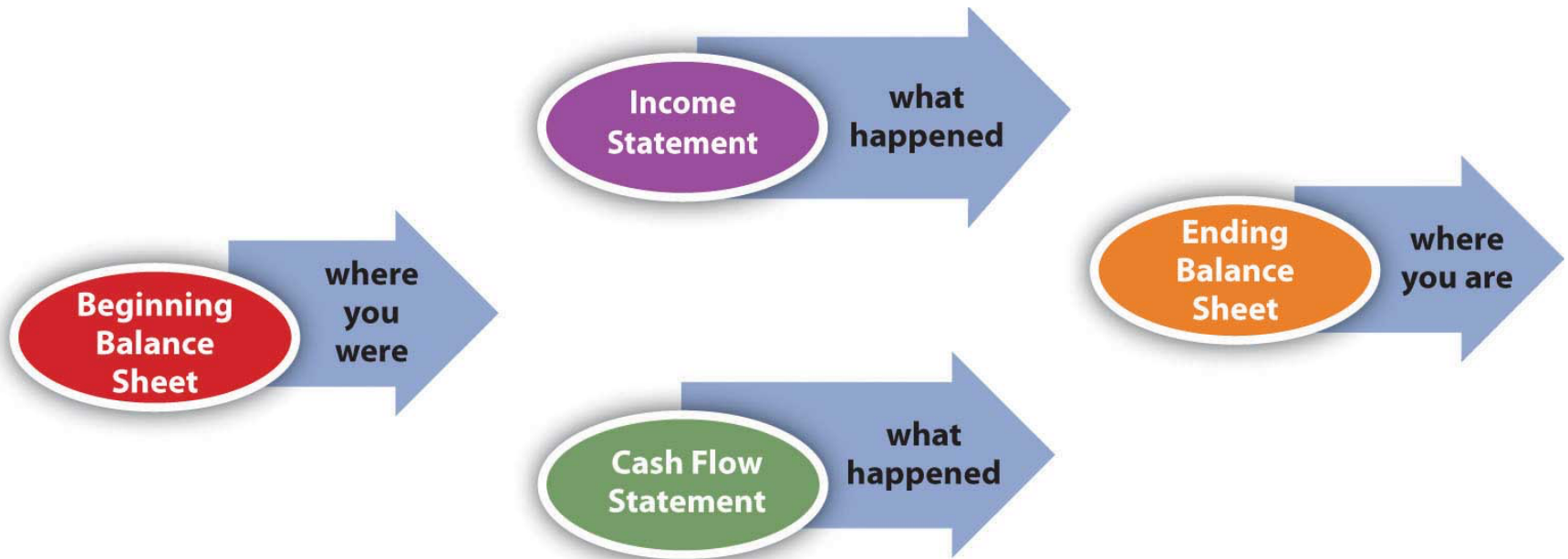


My Asset is Your Liability

| Item | You | Bank |
|--------------------------|-----------|-----------|
| Mortgage Loan | Liability | Asset |
| Checking Account Balance | Asset | Liability |
| Saving Account Balance | Asset | Liability |

Important to understand the perspective of the account holder / owner (which hat are you wearing?)

Financial Statements



Example:

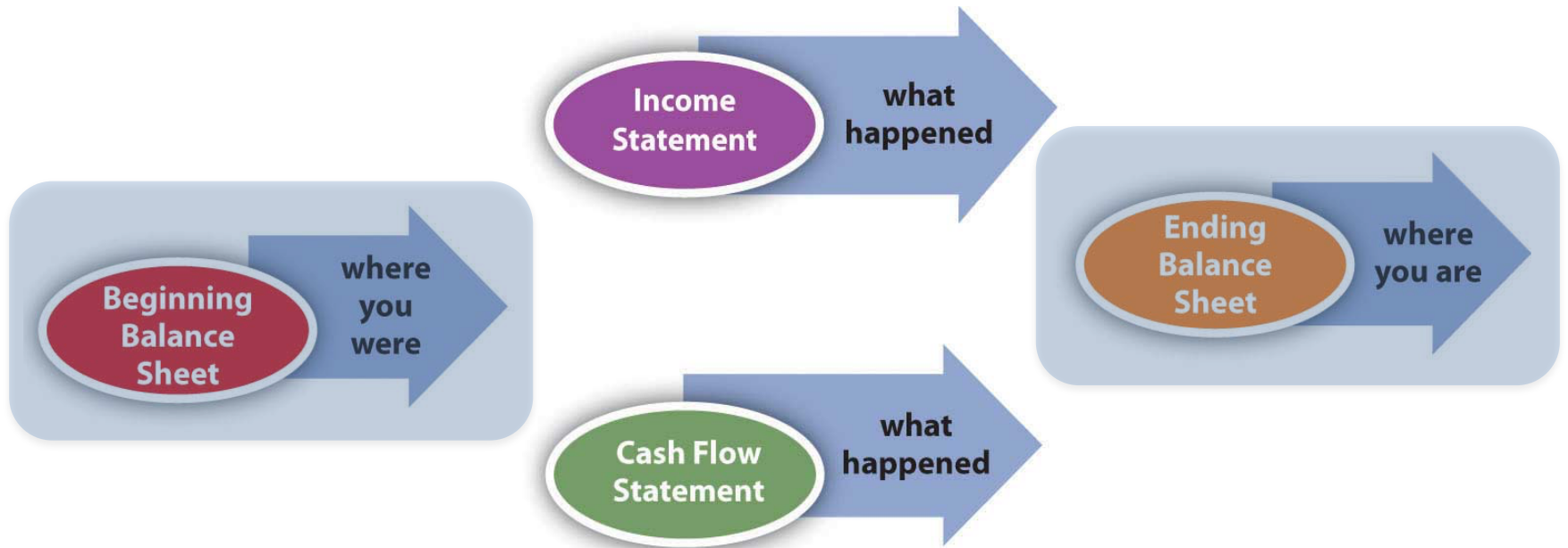
http://www.temple.edu/controller/financial_statements/2014ConsolidatedStatementspkg-Final.pdf

Copyright 2003 by Randy Glasbergen.
www.glasbergen.com



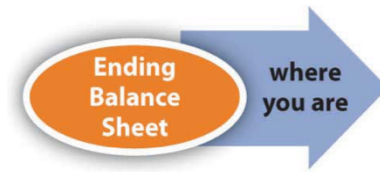
"Our books are balanced. 50% of our numbers are real and 50% are made up."

Financial Statements



Example:

http://www.temple.edu/controller/financial_statements/documents/Fiscal2015ConsolidatedStatementspkg-Final.pdf



Balance Sheet

Assets: All Property Owned by Company

- _____
- _____
- _____
- _____

Liabilities: All debts Company has outstanding

- _____
- _____
- _____
- _____



Balance Sheet

Assets: All Property Owned by Company

- **Cash and Cash Equivalents:**
 - Balances in checking, savings accounts
 - Investments maturing within 3 months
- **Inventory:** Goods in stock for Sale or Use
- **Accounts Receivable:** Amounts
- **Property, Plant and Equipment:** Assets not easily converted to cash. e.g. buildings, mfg equipment, computers, vehicles, computers, goodwill, etc.



Balance Sheet

Liabilities: All debts Company has outstanding

- **Accounts Payable:** Amounts due to suppliers for goods or services already received
- **Notes Payable:** Contractual obligations due to lenders (e.g. bank loans, long term leases)

Owners Equity: (aka Stockholder Equity)

- **Common Stock:** \$\$ invested by company owners
- **Retained Earnings:** Sum of all net income over business life not distributed to owners as dividend



Balance Sheet

Current vs. Long Term

- Common breakdown of Assets and Liabilities
- **Current:** (*typically*) within 12 months or less

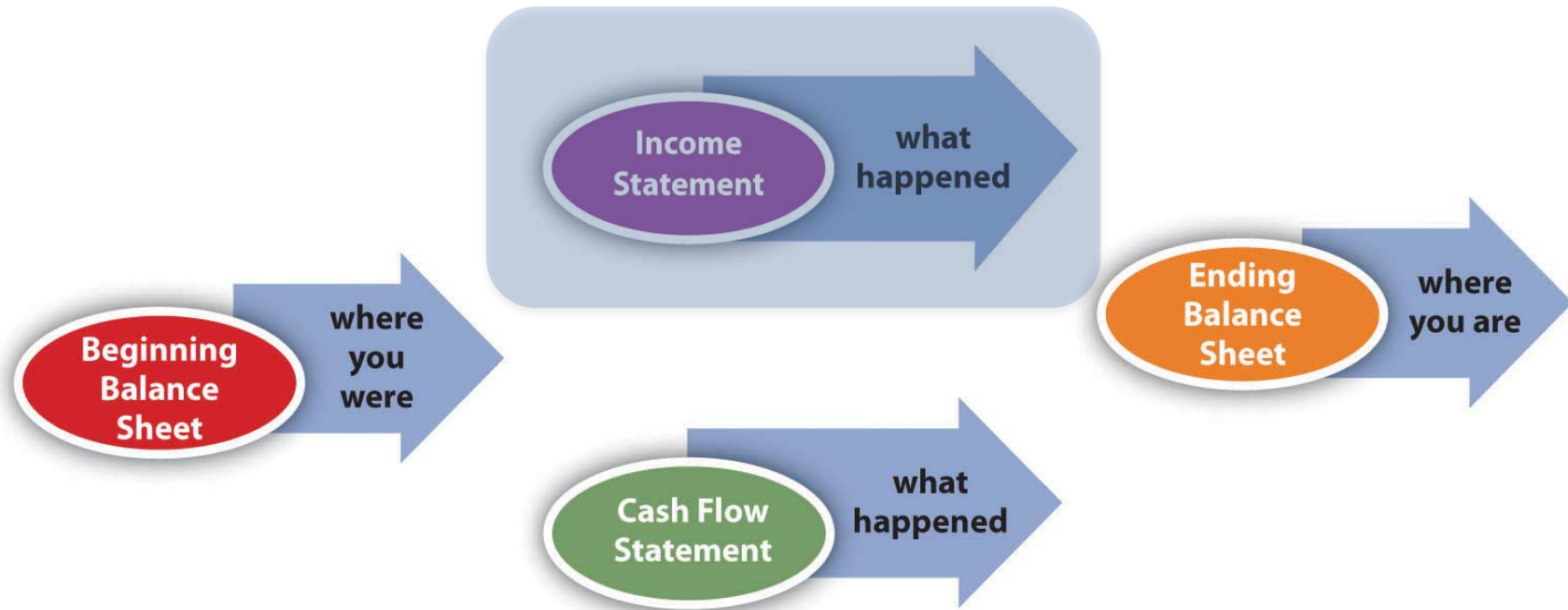
| Assets | Liabilities |
|--------------------------|------------------------------|
| Convert to Cash | Paid Off |
| e.g. Accounts Receivable | e.g. Accounts Payable |
| Inventory; Cash | Next 12 months Notes Payment |

- **Long Term (non-Current):** Everything not current
e.g. Property, Plants, Equipment, Note Payments > 12 months

Temple University
Of The Commonwealth System of Higher Education
Consolidated Balance Sheets
(in thousands)

| | June 30, 2015 | June 30, 2014 |
|---|---------------------------|---------------------------|
| Current assets: | | |
| Cash and cash equivalents | \$189,008 | \$182,512 |
| Investments and self-insurance trust funds | 894,418 | 850,003 |
| Accounts, loans and contributions receivable, net | 379,796 | 416,052 |
| Inventories and other assets | 51,437 | 38,551 |
| Deposits with trustees | 31,743 | 24,554 |
| Total current assets | <u>1,546,402</u> | <u>1,511,672</u> |
| Non-current assets: | | |
| Accounts, loans and contributions receivable, net | 138,806 | 128,194 |
| Investments and self-insurance trust funds | 573,771 | 551,527 |
| Deposits with trustees | 79,694 | 160,228 |
| Other assets | 27,389 | 28,724 |
| Property, plant and equipment, net | 1,771,339 | 1,729,246 |
| Goodwill and other intangibles | 22,415 | 22,988 |
| Funds held in trust by others | 142,716 | 145,432 |
| Total non-current assets | <u>2,756,130</u> | <u>2,766,339</u> |
| Total assets | <u><u>\$4,302,532</u></u> | <u><u>\$4,278,011</u></u> |
| Current liabilities: | | |
| Accounts payable and accrued expenses | \$381,635 | \$386,808 |
| Deferred revenue | 53,494 | 54,907 |
| Current portion of long-term debt | 34,768 | 26,131 |
| Current portion of accrued pensions and postretirement benefits | 598 | 641 |
| Total current liabilities | <u>470,495</u> | <u>468,487</u> |
| Non-current liabilities: | | |
| Accrued expenses and other liabilities | 266,239 | 276,861 |
| Long-term debt | 1,166,162 | 1,198,599 |
| Refundable federal student loans | 51,252 | 50,794 |
| Accrued pensions and postretirement benefits | 163,733 | 130,239 |
| Total non-current liabilities | <u>1,647,386</u> | <u>1,656,493</u> |
| Total liabilities | <u>2,117,881</u> | <u>2,124,980</u> |
| Net assets: | | |
| Unrestricted | 1,651,970 | 1,642,977 |
| Temporarily restricted | 125,279 | 137,569 |
| Permanently restricted | 407,402 | 372,485 |
| Total net assets | <u>2,184,651</u> | <u>2,153,031</u> |
| Total liabilities and net assets | <u><u>\$4,302,532</u></u> | <u><u>\$4,278,011</u></u> |

Financial Statements



Example:

http://www.temple.edu/controller/financial_statements/documents/Fiscal2015ConsolidatedStatementspkg-Final.pdf

Income Statement

- Shows financial performance over a period of time (usually a year)
 - vs. Balance Sheet point in time view
 - Balance Sheet: photo, Income Statement: video
- Also called Profit and Loss (P&L) Statement
- Typical Organization of Statement:
 - Revenue
 - Expenses
 - Net Income



Income
Statement

what
happened

Temple University
Of The Commonwealth System of Higher Education
Consolidated Statement of Activities
For the Year Ended June 30, 2014
(in thousands)

| | Unrestricted Net Assets | Temporarily Restricted Net Assets | Permanently Restricted Net Assets | Total Net Assets |
|---|------------------------------------|--|--|-----------------------------|
| Revenues: | | | | |
| Tuition and fees (net of discounts of \$90,499) | \$672,914 | | | \$672,914 |
| Commonwealth of Pennsylvania appropriation | 126,624 | | | 126,624 |
| Federal grants and contracts | 123,713 | | | 123,713 |
| Commonwealth of Pennsylvania grants and contracts | 12,056 | | | 12,056 |
| Local grants and contracts | 3,418 | | | 3,418 |
| Private grants and contracts | 34,761 | | | 34,761 |
| Contributions for operations and endowments | 23,737 | \$21,114 | \$15,337 | 60,188 |
| Investment return | 37,922 | 2,634 | 367 | 40,923 |
| Sales of educational activities | 8,649 | | | 8,649 |
| Auxiliary enterprises | 95,133 | | | 95,133 |
| Patient care activities (net of bad debt expense of \$47,318) | 1,497,846 | | | 1,497,846 |
| Other sources | 47,698 | | | 47,698 |
| Net assets released from restrictions | 17,036 | (17,036) | | |
| Total revenues | 2,701,507 | 6,712 | 15,704 | 2,723,923 |
| Expenses: | | | | |
| Educational and general: | | | | |
| Instruction | 433,311 | | | 433,311 |
| Research | 166,235 | | | 166,235 |
| Public service | 16,433 | | | 16,433 |
| Academic support | 156,850 | | | 156,850 |
| Student services | 76,731 | | | 76,731 |
| Institutional support | 126,527 | | | 126,527 |
| Student aid | 12,016 | | | 12,016 |
| Total educational and general | 988,103 | 0 | 0 | 988,103 |
| Auxiliary enterprises | 118,558 | | | 118,558 |
| Patient care activities | 1,580,321 | | | 1,580,321 |
| Total expenses | 2,686,982 | 0 | 0 | 2,686,982 |

Debits and Credits

Single-Entry: e.g. personal checkbook

Double-Entry: Required for GAAP

- Equal Debits and Credits made in accounts for each transaction
- Enforces Accounting Equation

$$\text{Assets} = \text{Liabilities} + \text{Owner's Equity}$$

$$\text{Debits} = \text{Credits}$$

Cash Account

| 1904 | | Dr. | Cr. |
|-------|-------------------------------------|--------|--------|
| Jan 1 | Cash on hand | | 234 17 |
| | Paid Jan. rent to C. L. Isaacs | | 15 |
| 3 | Cash sales | | 260 |
| 14 | Recd. from E. D. Williams, in full. | 115 | |
| 23 | " " B. P. Johns, on acc. | 8 | |
| 28 | Paid to P. J. Keen, on account, | | 8 |
| | " wages for January. | | 12 |
| 31 | Balance forward to Page 18. | | 13 |
| | | 359 77 | 359 77 |



Debits and Credits

- Example 1: Company uses \$ 40,000 cash to purchase new equipment

$$\begin{array}{rclclcl} \text{Assets} & = & \text{Liabilities} & + & \text{Owner's Equity} & \\ -40,000 & = & -- & + & -- & \\ +40,000 & & & & & \end{array}$$

- Example 2 : Company purchased equipment with a loan

$$\begin{array}{rclclcl} \text{Assets} & = & \text{Liabilities} & + & \text{Owner's Equity} & \\ +40,000 & = & +40,000 & + & -- & \end{array}$$



Debits (Dr) and Credits (Cr)

- Dr and Cr only designate the two halves of each transaction - also known as a **‘Journal Entry’**
- Impact on balance depends on type of account

Balance Sheet Accounts

| Asset | |
|--------------|--------------|
| Debit | Credit |
| Increase (+) | Decrease (-) |

| Liability | |
|--------------|--------------|
| Debit | Credit |
| Decrease (-) | Increase (+) |

| Owner's Equity | |
|----------------|--------------|
| Debit | Credit |
| Decrease (-) | Increase (+) |

Income Statement Accounts

| Revenue | |
|--------------|--------------|
| Debit | Credit |
| Decrease (-) | Increase (+) |

| Expense | |
|--------------|--------------|
| Debit | Credit |
| Increase (+) | Decrease (-) |

Copyright 2013 Money-Zine.com



Debits and Credits

- Example 3: Loan Funds Received

| | | |
|-------------------|--------|--------|
| Dr. Cash | 10,000 | |
| Cr. Loan ABC Bank | | 10,000 |

- Example 4: Cash Sale

| | | |
|-----------|-------|-------|
| Dr. Cash | 1,000 | |
| Cr. Sales | | 1,000 |

- Example 5: Pay Electricity Bill

| | | |
|-------------------------|-----|-----|
| Dr. Electricity Expense | 500 | |
| Cr. Cash | | 500 |



General Ledger (G/L)

- Place where all company's journal entries get recorded
- Original: paper ledger Today: accounting software
- Key financial document-Source for All financial statements

Stage 1 - Journals - Transaction recorded by date order

| General Journal | | #1001 | | |
|---------------------|-----------------|-------|------------|-------------|
| Date | Details | A/C # | Debit (Dr) | Credit (Cr) |
| 1 May 20XX | Cash | 301 | 10,000 | |
| | Loan - ABC Bank | 401 | | 10,000 |
| Loan funds received | | | | |

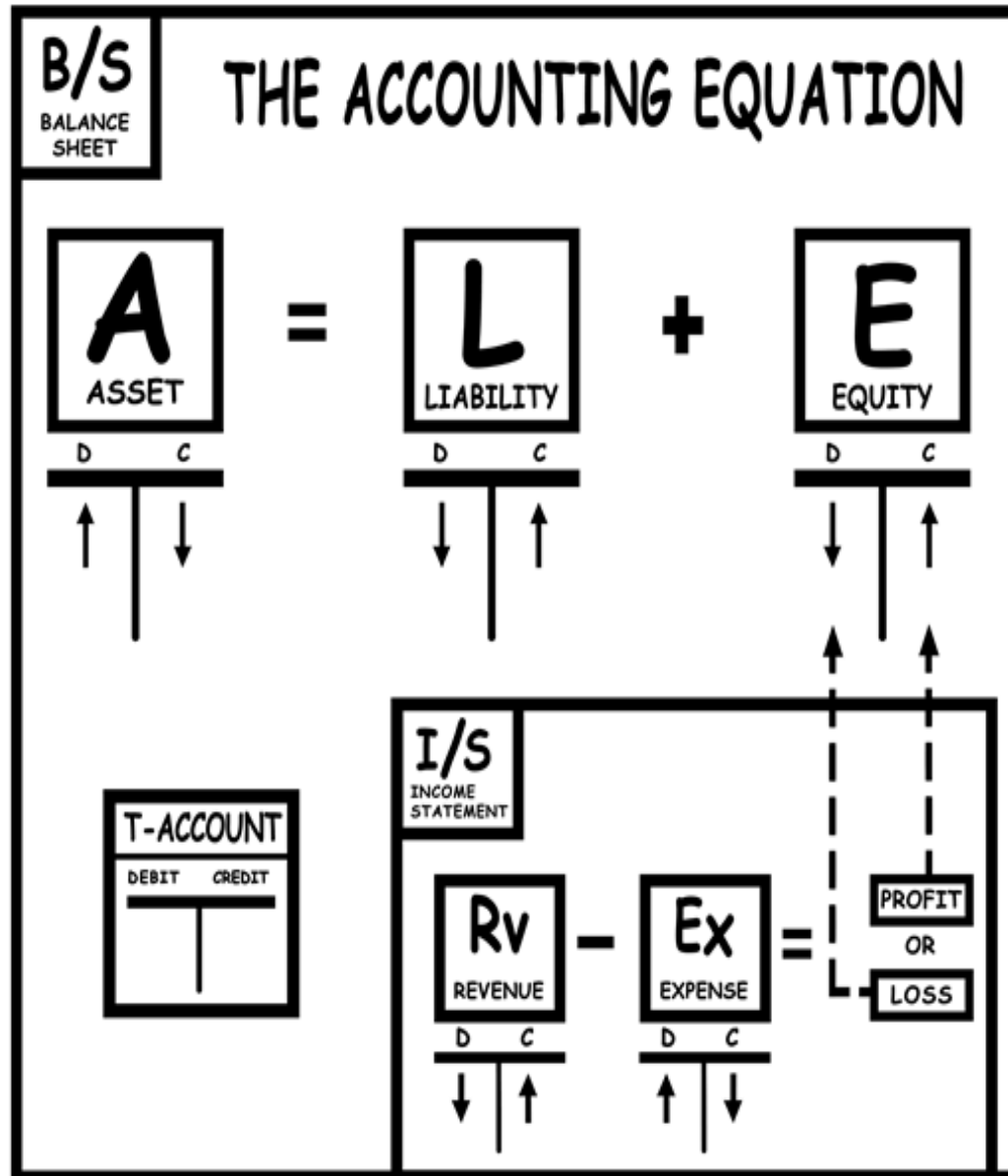
| | | | | |
|-------------------|-------|-----|------|------|
| 10 May 20XX | Cash | 301 | 1000 | |
| | Sales | 101 | | 1000 |
| Sale of inventory | | | | |

| | | | | |
|-----------------------------|---------------------|-----|-----|-----|
| 15 May 20XX | Electricity expense | 201 | 500 | |
| | Cash | 301 | | 500 |
| Payment of electricity bill | | | | |

Journals ————— Pc



Summary



General Ledger (G/L) in SAP

- Global Bike Inc. company G/L accounts are in three groups

| Account Group | Number Range |
|----------------------|-----------------|
| BS – Balance Sheet | 100000 – 399999 |
| PL – Profit and Loss | 400000 – 999999 |
| RA – Reconciliation | 110000 – 310000 |

Profit and Loss (P&L) accounts track the income and expenses (aka Income Statement Accounts). At end of fiscal year, “closed” to **Retained Earnings** balance sheet account.

Reconciliation Accounts track changes to sub-ledger accounts (e.g. for each vendor, customer). When sub-ledger account posted, automatic posting made to **Reconciliation** G/L account to keep the G/L balanced.



Assertion

Definition

‘a confident and forceful statement of fact or belief’

Oxford Dictionaries



In Auditing: ‘what management claims’



Management Assertion Dimension Descriptions

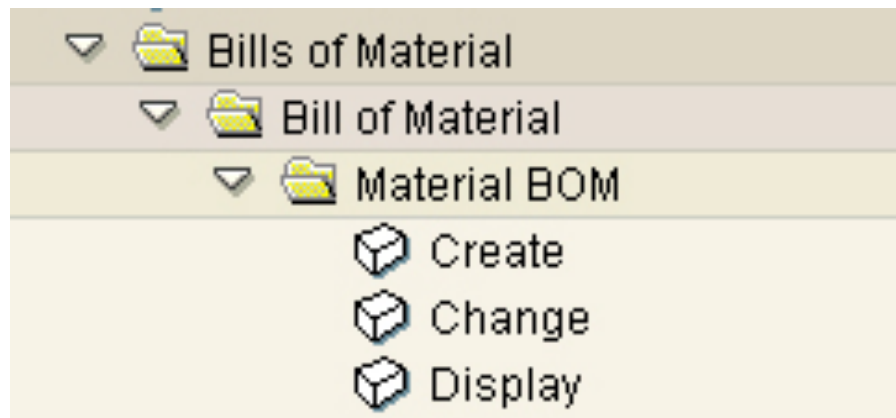


- Occurrence:
 - Recorded transactions exist
 - Transactions actually occurred during the period
- Existence:
 - Evidence the assets, liabilities and equity balances exist (have real world counterpart)
 - Exist at a given date
- Timing (cutoff):
 - Transactions recorded in proper accounting period
 - Transactions recorded with correct dates
- Completeness:
 - Existing transactions are recorded
 - All transaction that should be included are in fact included

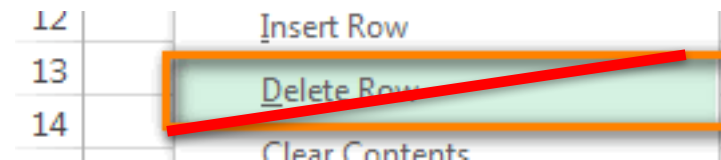
| | Andhra Parks | Andhra Appointments | Research/Spices Service Center |
|--------------------------------|--------------|---------------------|--------------------------------|
| OPERATING REVENUES AND SUPPORT | \$1,025,883 | \$6,477,036 | — |
| | 5,016,272 | 3,995,389 | — |
| | 902,008 | 749,854 | — |
| | 95,452 | 41,309 | — |
| | 1,661,837 | 30,581 | — |
| | — | 2,267,778 | — |

SAP Design for 'Completeness'

- ◆ In SAP, there are very few delete options:



- ◆ Implication: Don't save if things don't look 100% correct! Exit the transaction and start over
- ◆ Implication: Once transaction included, always included



Management Assertion Dimension Descriptions

- Accuracy:
 - Transactions have been recorded with correct amounts
 - Transactions recorded in the appropriate accounts
- Valuation:
 - Included at appropriate amounts
 - Value adjustments are properly determined and recorded
- Rights (Ownership):
 - Entity holds or controls rights of ownership to assets
 - Liabilities faithfully represent entity's obligations
 - Rights exist as of given date
- Summarization / Presentation:
 - Transactions are included in the master files
 - Transactions correctly summarized



INCOME STATEMENT

| | Andhra Pradesh | Andhra Pradesh | Research/Spices Service Center |
|--------------------------------|-------------------|-------------------|-----------------------------------|
| OPERATING REVENUES AND SUPPORT | \$1,025,883 | \$4,477,036 | — |
| | 5,016,272 | 3,995,389 | — |
| | 962,008 | 749,854 | — |
| | 95,452 | 41,309 | — |
| | 1,661,837 | 30,581 | — |
| | — | 2,267,778 | — |



Balance Sheet

As at 31 December 2005

| Notes | 2005 | 2004 |
|-------|-------|-------|
| 16 | 1,011 | 1,000 |
| 18 | 287 | — |

Management Assertion Dimensions

‘a confident statement of fact’ if:

- | | |
|--------------------------------|------------------|
| • Occurrence | Income Statement |
| • Completeness | all |
| • Accuracy | all |
| • Timing | all |
| • Classification | all |
| • Summarization / Presentation | all |
| • Existence | Balance Sheet |
| • Rights (Ownership) | Balance Sheet |
| • Valuation | Balance Sheet |

| | Audited Profit | Audited Expenses | Research Expense |
|---------------------------------------|----------------|------------------|------------------|
| OPERATING REVENUES AND SUPPORT | \$5,025,843 | \$6,477,036 | — |
| — | 5,025,843 | 5,995,189 | — |
| — | 90,208 | 748,854 | — |
| — | 96,452 | 41,869 | — |
| — | 1,663,837 | 30,281 | — |
| — | 609,894 | 2,257,278 | — |
| — | — | (60,347) | — |
| — | — | 3,580,030 | 280,369 |
| — | 435,408 | 471,781 | 208,289 |
| — | 70,817 | (4,215,217) | 1,376,054 |
| — | 3,871,891 | 80,960 | — |
| — | 708,447 | — | — |
| — | \$16,458,509 | \$14,410,274 | \$1,864,712 |
| TOTAL REVENUES | 2,580,350 | 1,642,843 | 1,981,621 |
| — | 2,714,329 | 3,490,300 | 372,906 |
| — | 3,840,521 | 2,211,992 | — |
| — | 178,865 | 283,808 | — |
| — | 1,829,257 | 233,815 | — |
| — | 832,225 | 895,323 | — |
| — | 823,7934 | 18,581 | 17,687 |

| | 2004 | 2003 |
|------------------------|------|------|
| Balance Sheet | | |
| As at 31 December 2005 | | |
| Notes | | |
| 16 | | |
| 18 | | |
| 19 | | |

Management Assertion Dimensions

Taxonomy for class

- Occurrence / Existence (timing)
- Completeness
- Accuracy / Valuation
- Rights (Ownership)
- Summarization / Presentation

| | Audited Profit | Audited Expenses | Research Expense |
|---------------------------------------|----------------|------------------|------------------|
| OPERATING REVENUES AND SUPPORT | \$5,025,843 | \$5,477,036 | — |
| Admission | 5,015,272 | 5,395,189 | — |
| Membership, Catering & Gift Shop | 90,208 | 748,854 | — |
| Research Support | 9,452 | 41,807 | — |
| Government Grants & Fee | 1,663,837 | 30,281 | — |
| Governmental & Educational Activities | 608,694 | 2,257,778 | — |
| — | — | (660,347) | — |
| NON-OPERATING ITEMS* | 435,408 | 3,580,030 | 280,369 |
| Other Services Related to Operations | 70,817 | 471,781 | 208,285 |
| Investment Income | 3,871,891 | (4,215,217) | 1,376,054 |
| Interest/Dividend Income | 708,447 | 80,560 | — |
| Operating Expenses | — | — | — |
| Transferring Property to Operations | \$16,458,509 | \$14,419,274 | \$1,864,712 |
| TOTAL REVENUES | 2,550,350 | 1,642,843 | 1,981,421 |
| OPERATING EXPENSES* | 2,714,329 | 3,490,310 | 372,906 |
| General & Research Activities | 3,840,521 | 2,211,992 | — |
| General, Maintenance & Utilities | 178,865 | 283,808 | — |
| Operations, Catering & Gift Shop | 1,829,257 | 231,815 | — |
| Other Services | 832,225 | 895,323 | — |
| Membership Services | — | 18,581 | — |
| Governmental & Educational | 823,7934 | 4,400,447 | 17,667 |



WorldCom: How the Fraud took place

- Operating Expenses to Assets
 - CFO's directions affected **the** income statement:

Revenues xxx (no change)

COGS xxx (no change)

Operating Expenses:

Fees paid to lease other

~~companies phone networks: xxx (Huge Decrease)~~

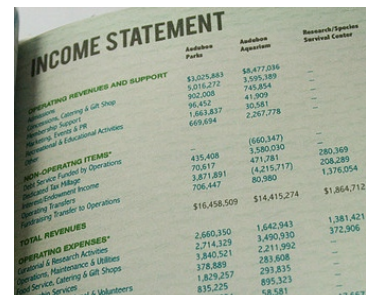
~~Computer expenses: xxx (Huge Decrease)~~

~~NET INCOME xxx (Huge Increase)~~

= HAPPY INVESTORS

**Removed From
Income Statement**

**Removed From
Income Statement**



| | Airbus Parks | Airbus Americas | Research/Spares Services Center |
|---------------------------------------|--------------|-----------------|---------------------------------|
| OPERATING REVENUES AND SUPPORT | \$3,025,883 | 5,477,036 | — |
| Commissions | \$010,272 | 748,854 | — |
| Leasing, Convey & on Shop | 902,008 | 41,909 | — |
| Membership Support | 16,452 | 30,581 | — |
| Technical & Educational Activities | 1,663,837 | 2,257,278 | — |
| | 669,694 | (660,347) | — |
| | — | 1,596,930 | — |
| NON-OPERATING ITEMS* | 435,408 | 471,281 | 280,369 |
| Net Service Funded by Operations | 70,817 | — | 208,289 |
| Provision for Litigation | 3,871,891 | (4,215,717) | 1,376,054 |
| Research/Development Income | 706,447 | 80,260 | — |
| Operating Transfers | — | — | — |
| Non-Recurring Transfers to Operations | \$16,458,509 | \$14,415,274 | \$1,864,712 |
| TOTAL REVENUES | 2,660,350 | 1,642,043 | 1,381,421 |
| | 2,714,329 | 3,470,930 | 372,906 |
| OPERATING EXPENSES* | 3,840,521 | 2,211,092 | — |
| Operational & Research Activities | 378,889 | 283,608 | — |
| Operations, Maintenance & Utilities | 1,829,257 | 293,835 | — |
| Post-Service, Convey & on Shops | 835,225 | 895,323 | — |
| Post-Service Services | — | — | — |
| Post-Service Services - & Volunteers | — | — | — |

How the Fraud took place (con' t)

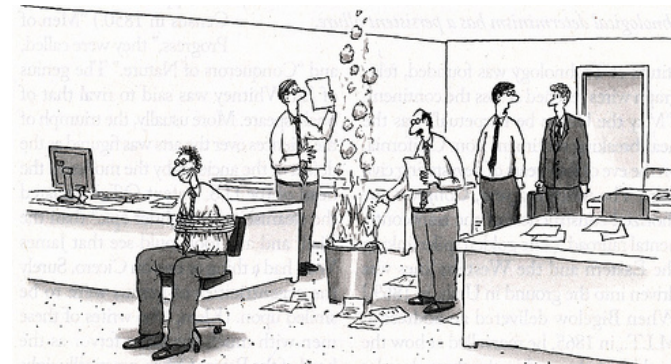
- Operating Expenses into Assets
 - WorldCom's journal entry for \$500 million in computer expenses:

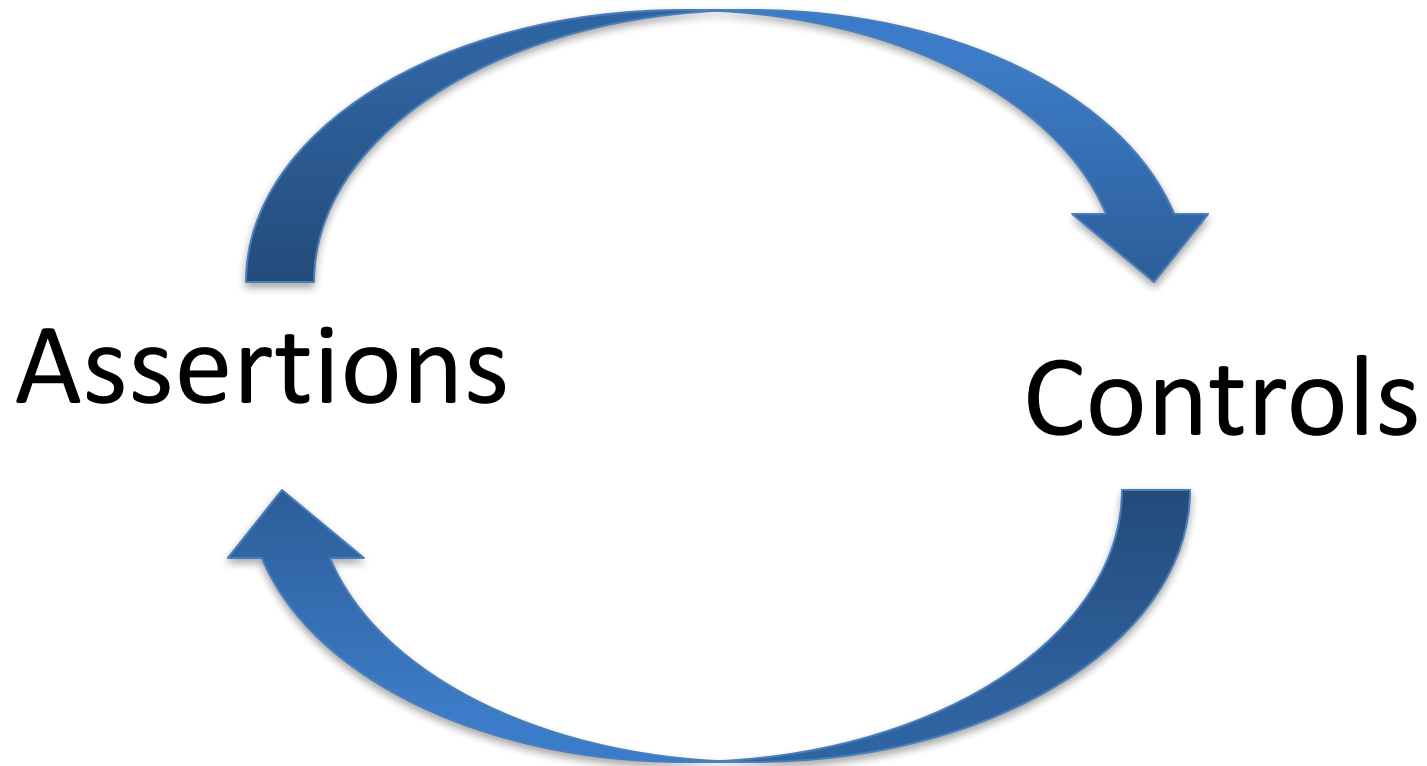
Documents to support entry never found!

| | |
|-----------------|-------------|
| Computer Assets | 500 million |
| Cash | 500 million |

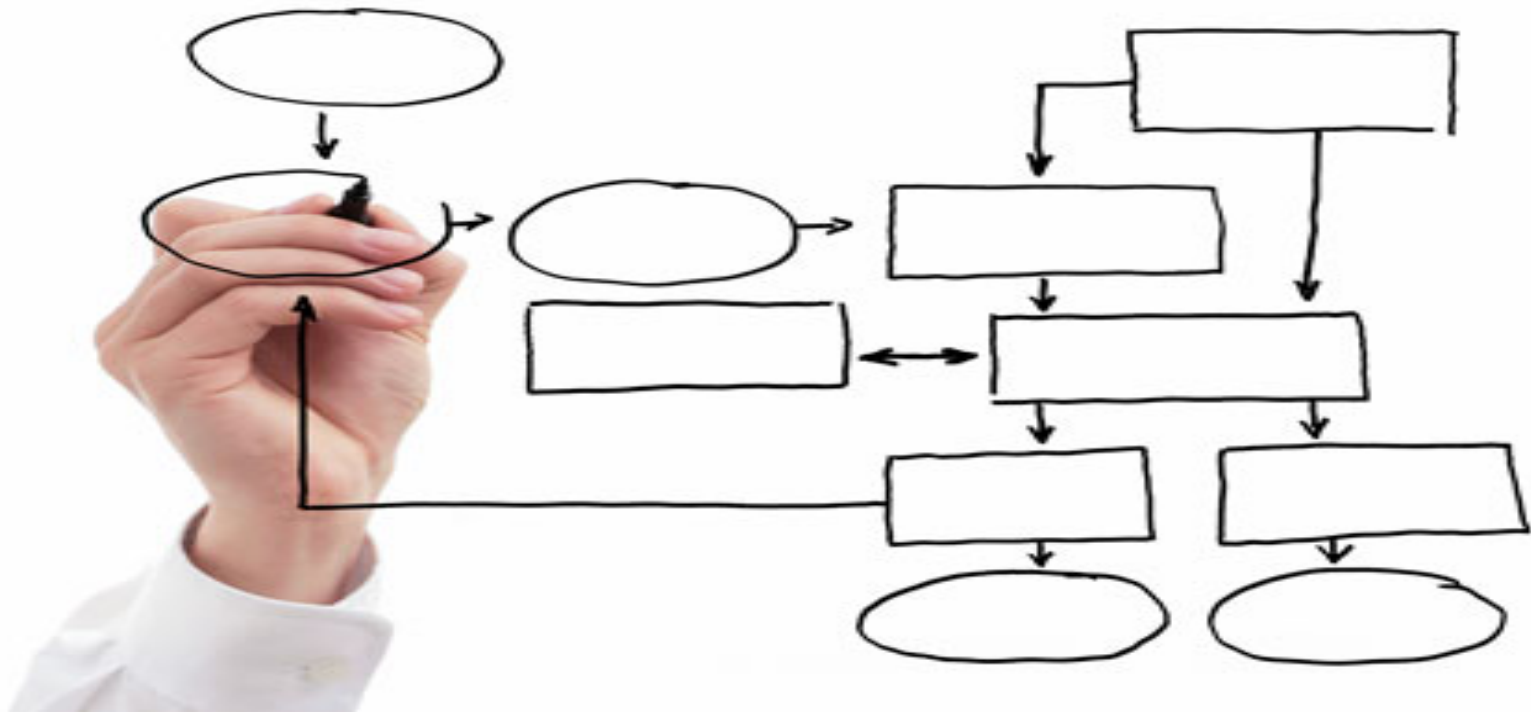
- Huge losses turned into enormous profits.
 - \$1.38 billion in net income in 2001
- Inflated the company's value in its assets

? What Assertion Attributes were Violated / Missing





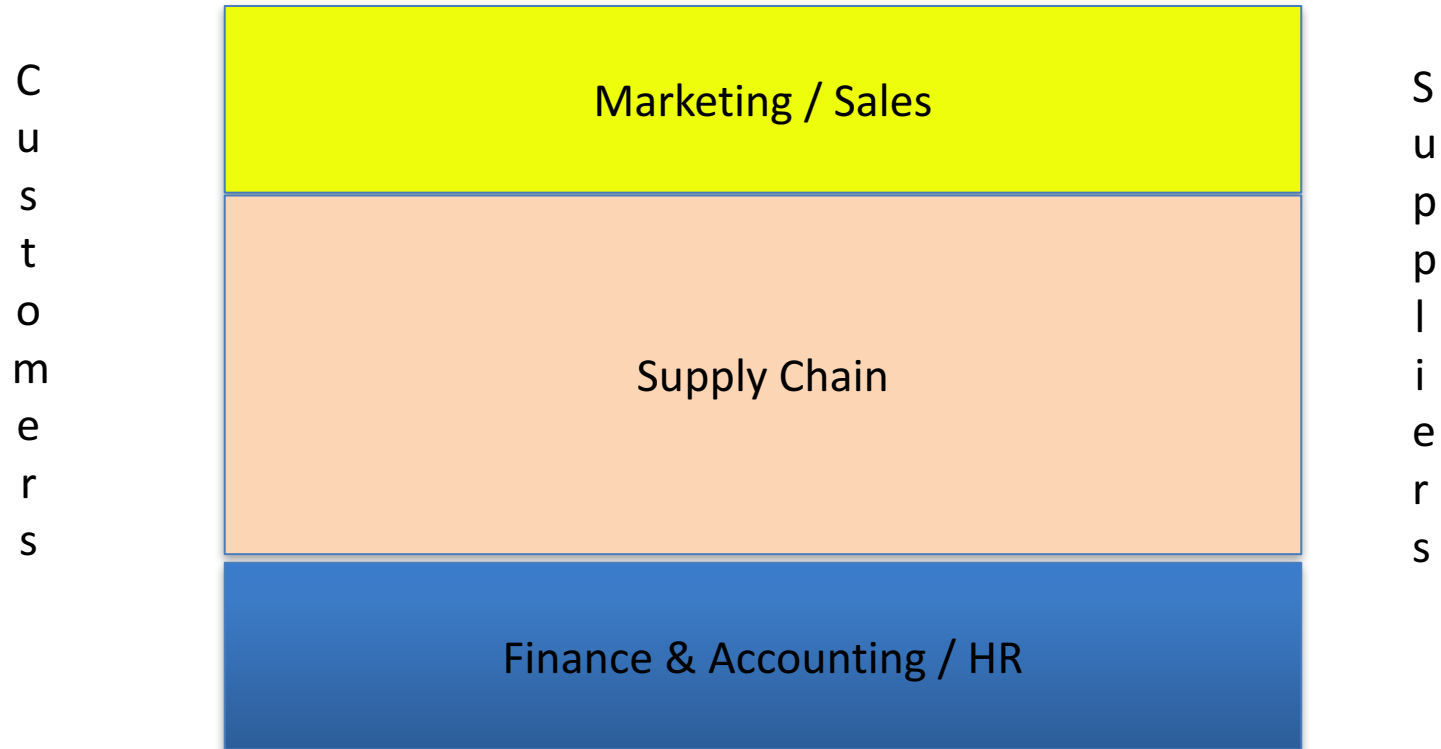
- The existence of controls imply the existence of assertions.
- Assertions require the existence of controls.



Integration of:

- Business Organization
- Business Process
- ERP / SAP Functions

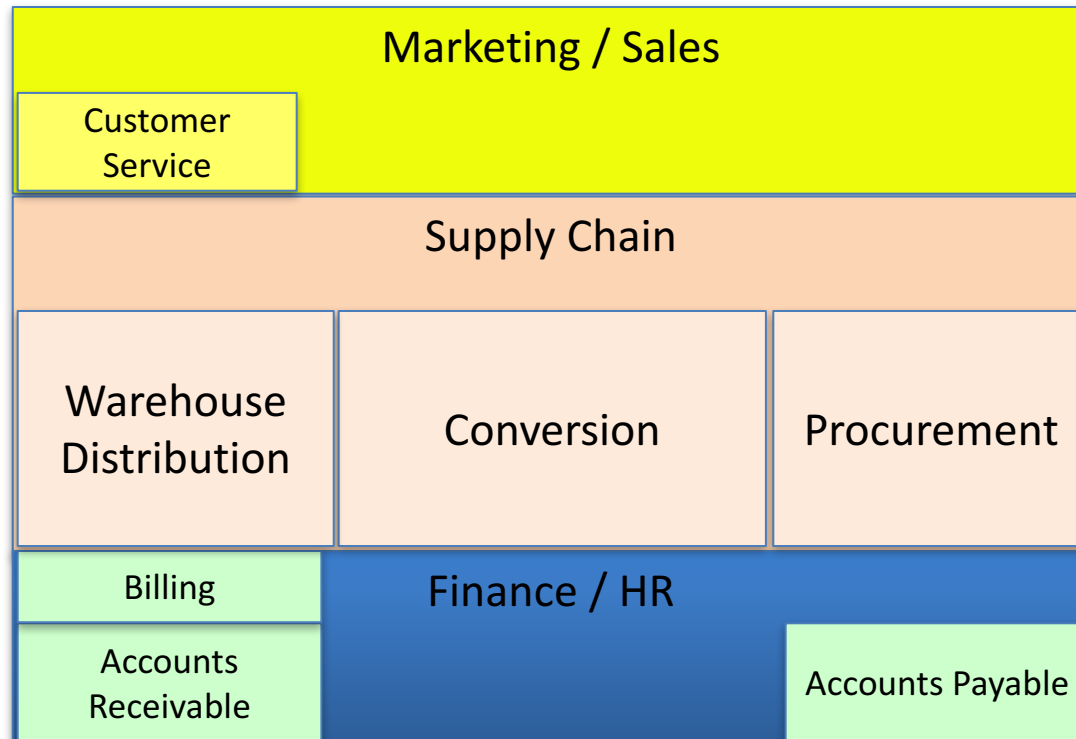
Business Functions / Organization



Global Bike Organization



C
u
s
t
o
m
e
r
s



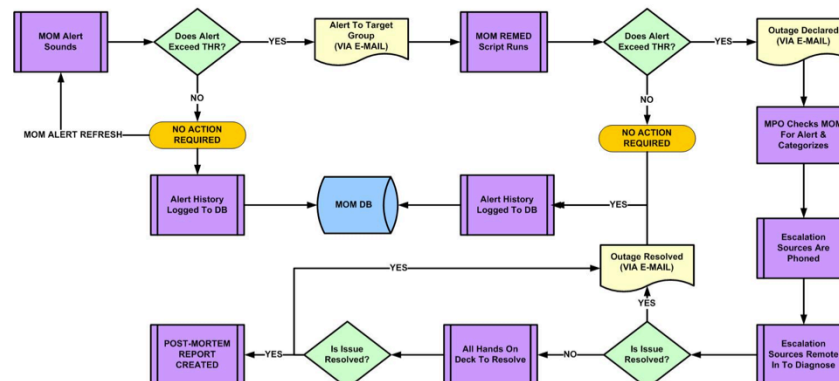
S
u
p
p
l
i
e
r
s

Business Process

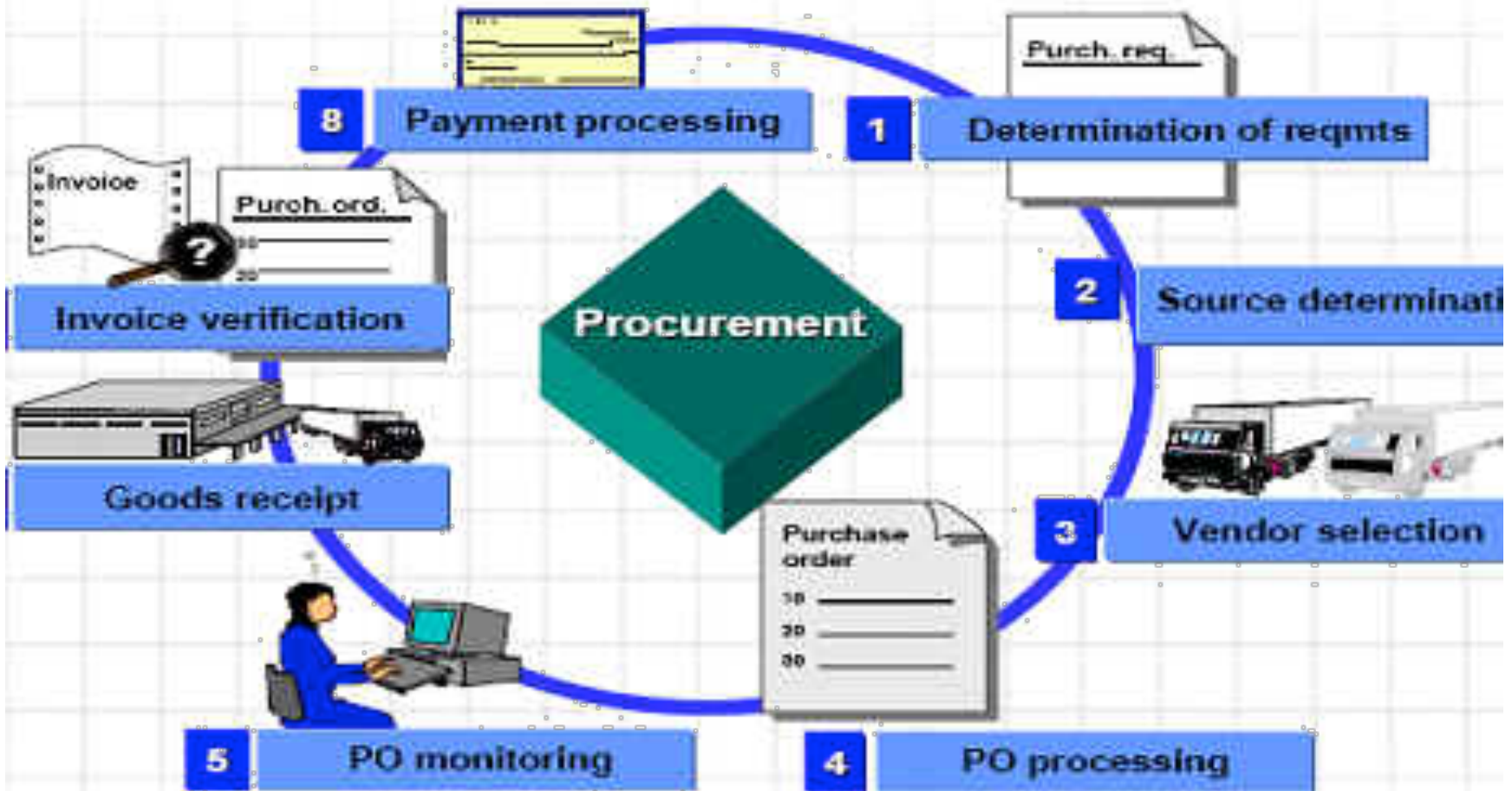
Definition

‘A series of logically related activities / tasks performed together to produce a defined set of results.’

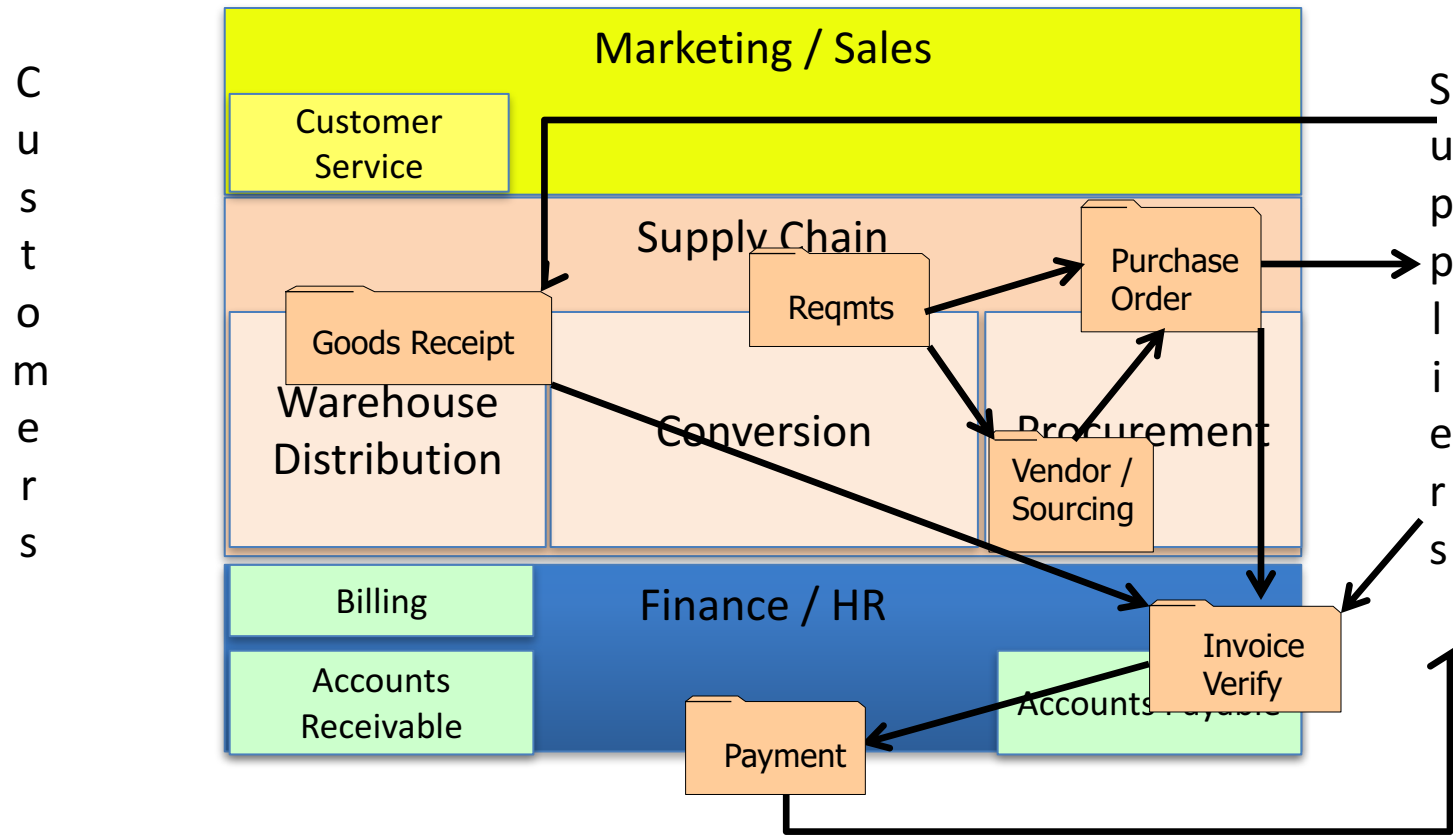
Business Dictionary



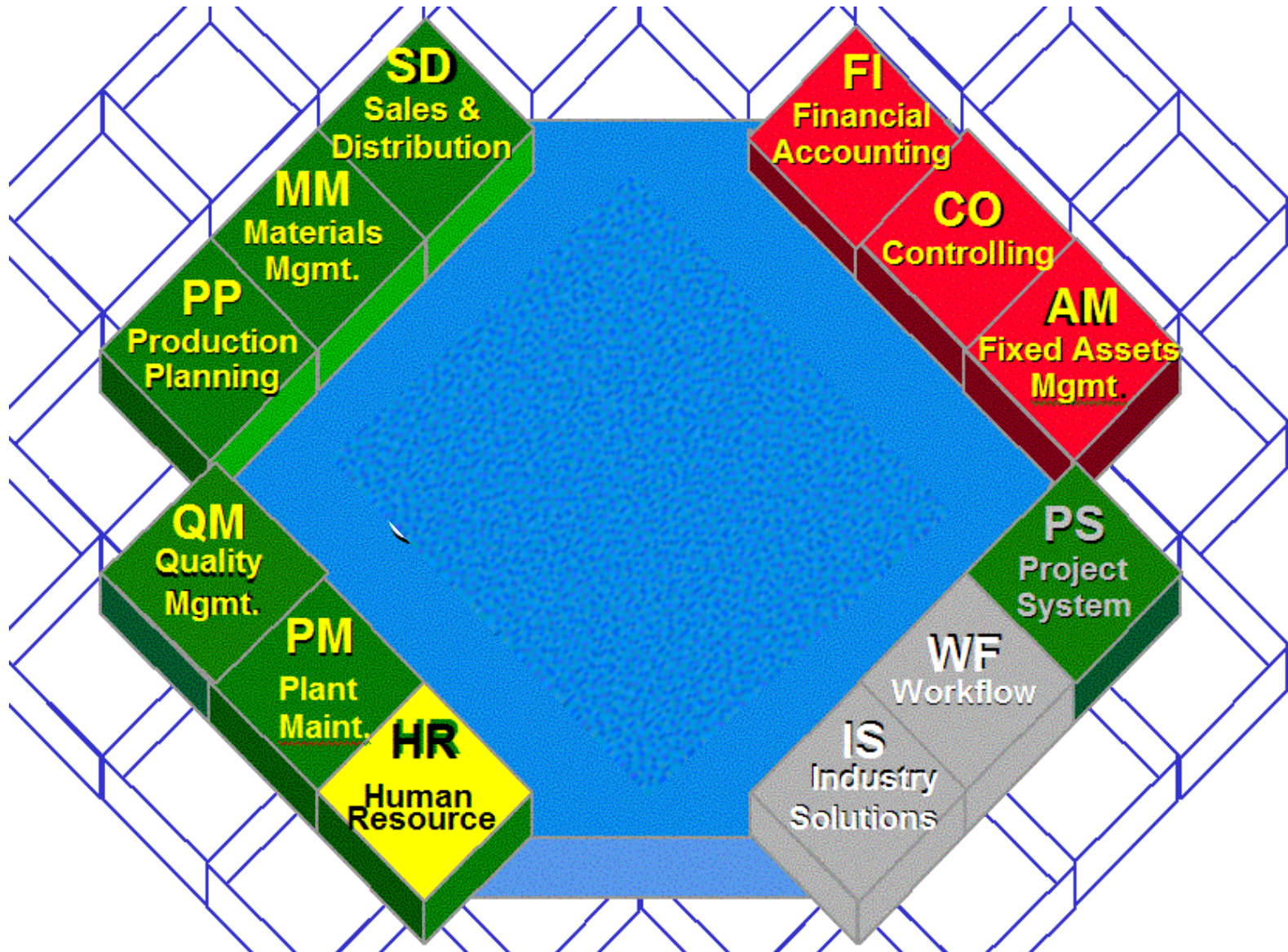
Procurement Process



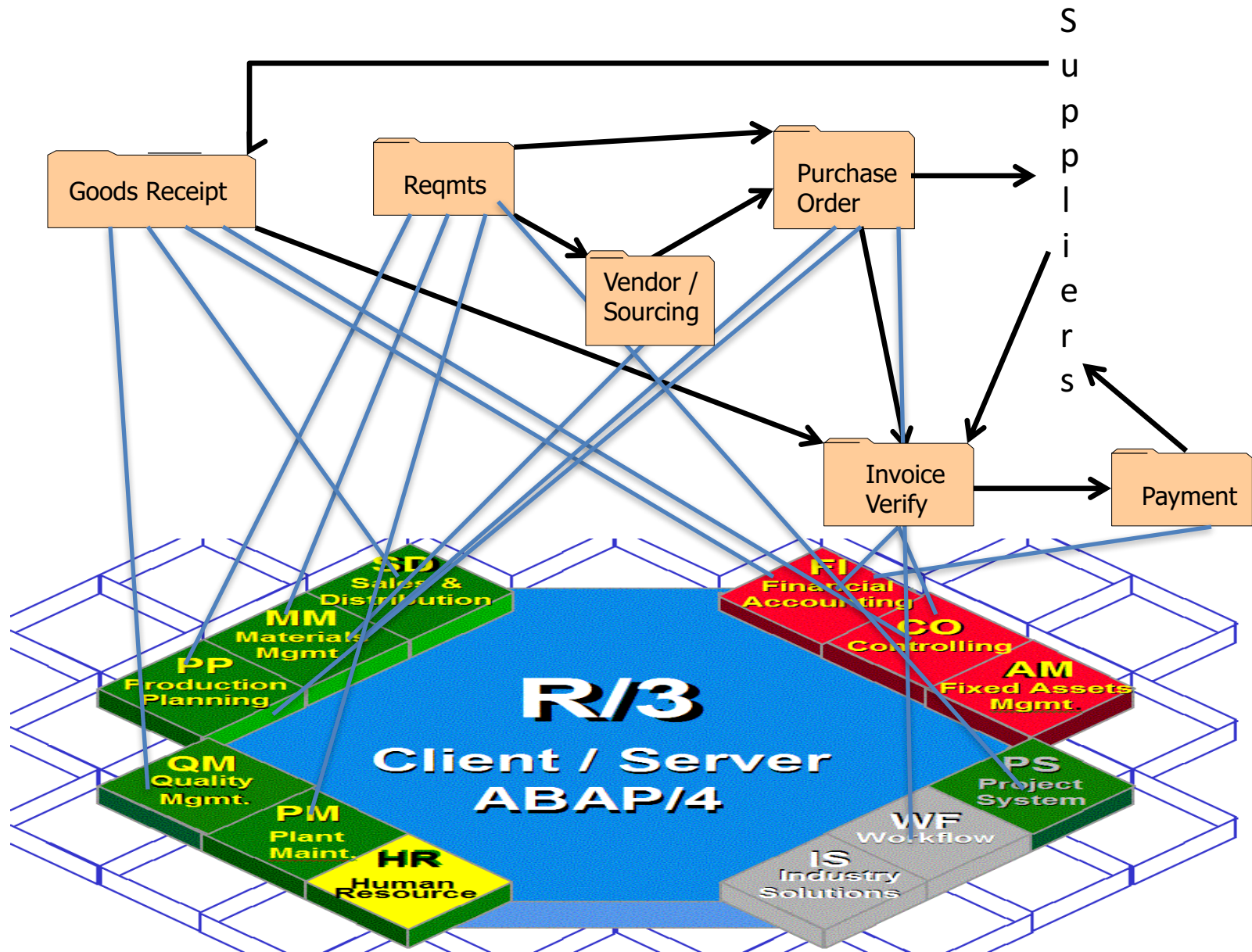
Procurement at GBI



SAP Core Modules



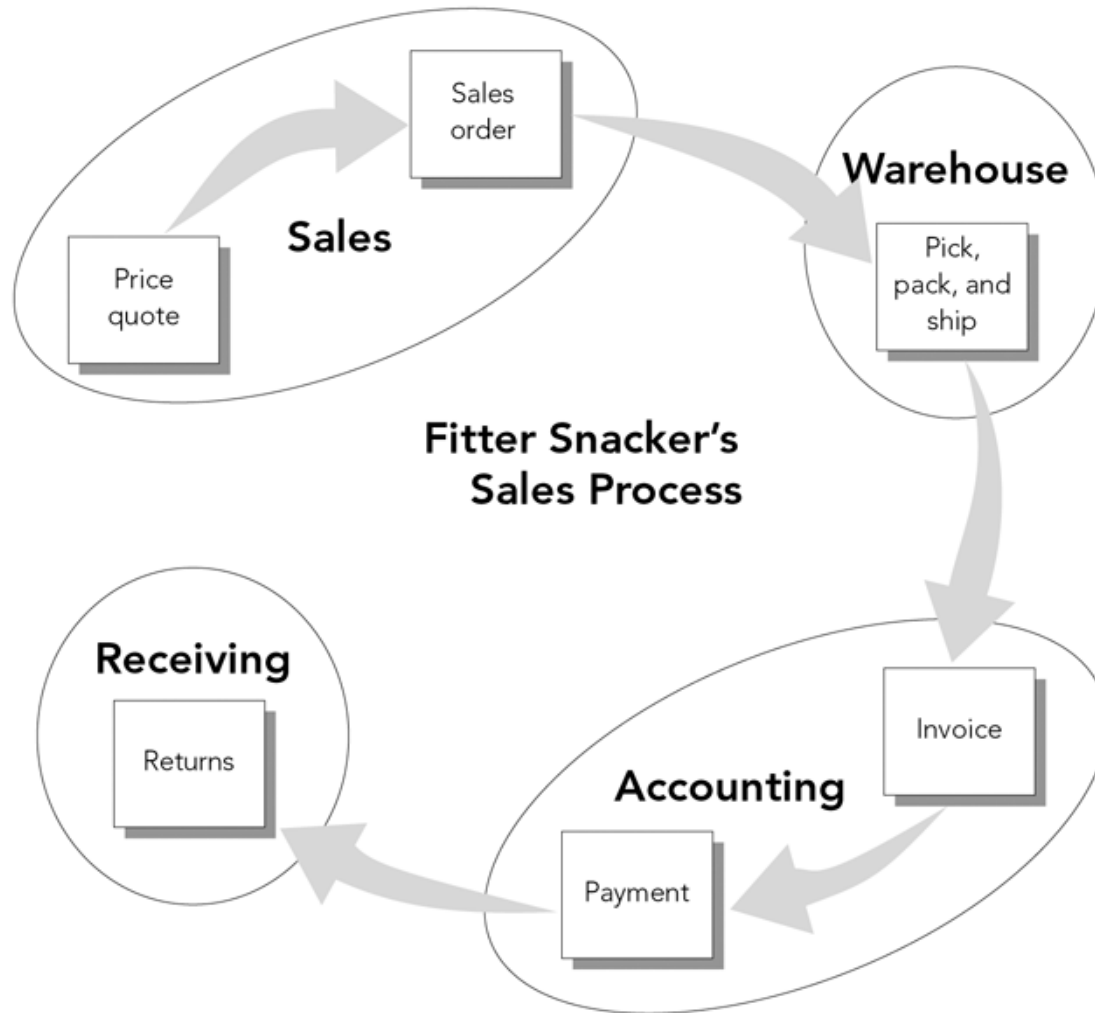
Procurement Functions in SAP



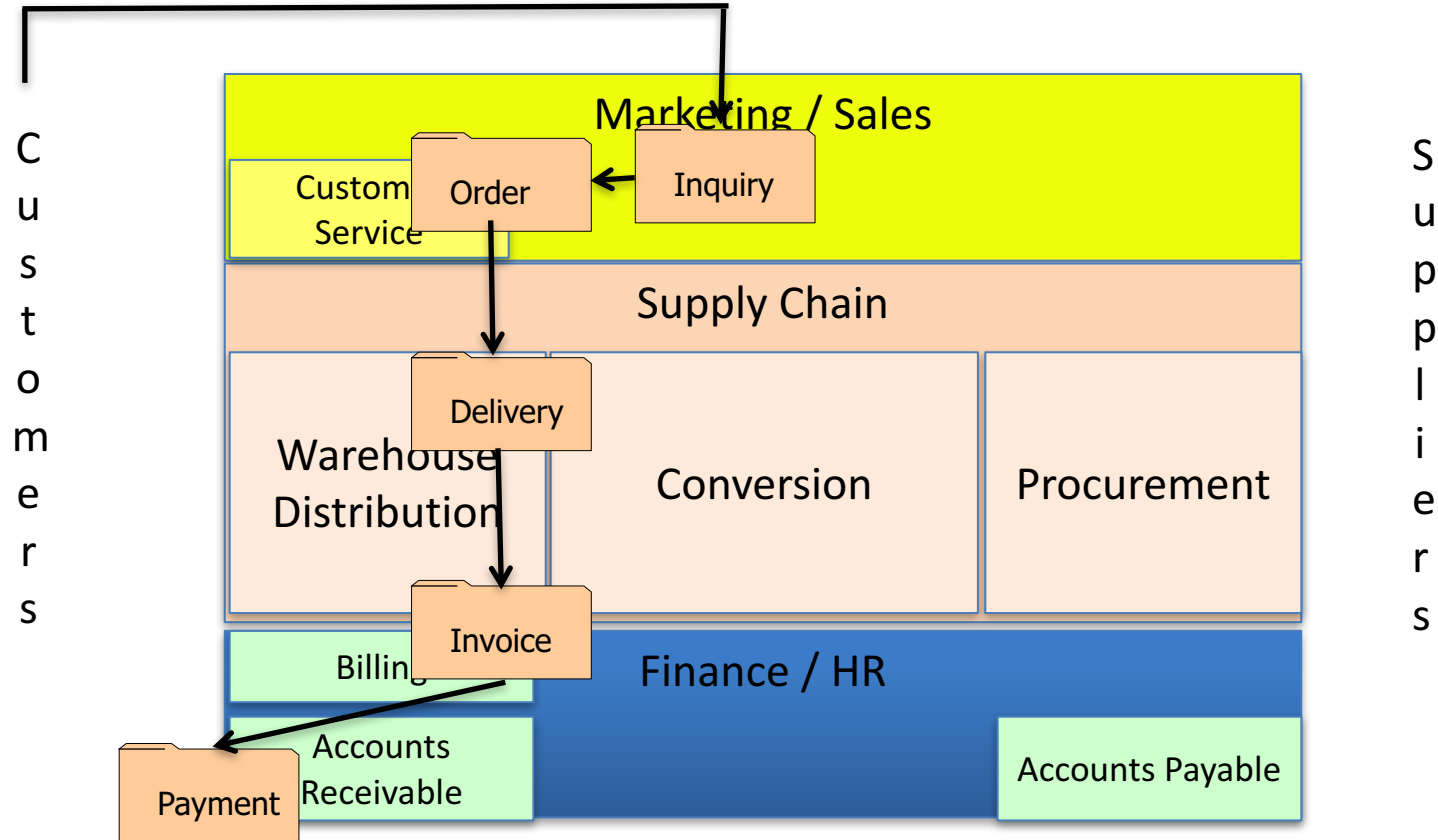
Procurement Functions in SAP

| Task | SD | MM | QM | FI | CO | PP | PM | PS | WF |
|-------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Requirements | | <input checked="" type="checkbox"/> | | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Vendor / Sourcing | | <input checked="" type="checkbox"/> | | | | | | | |
| Purchase Order | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> |
| Goods Receipt | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | |
| Invoice Verify | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | <input checked="" type="checkbox"/> |
| Payment | | | | <input checked="" type="checkbox"/> | | | | | |

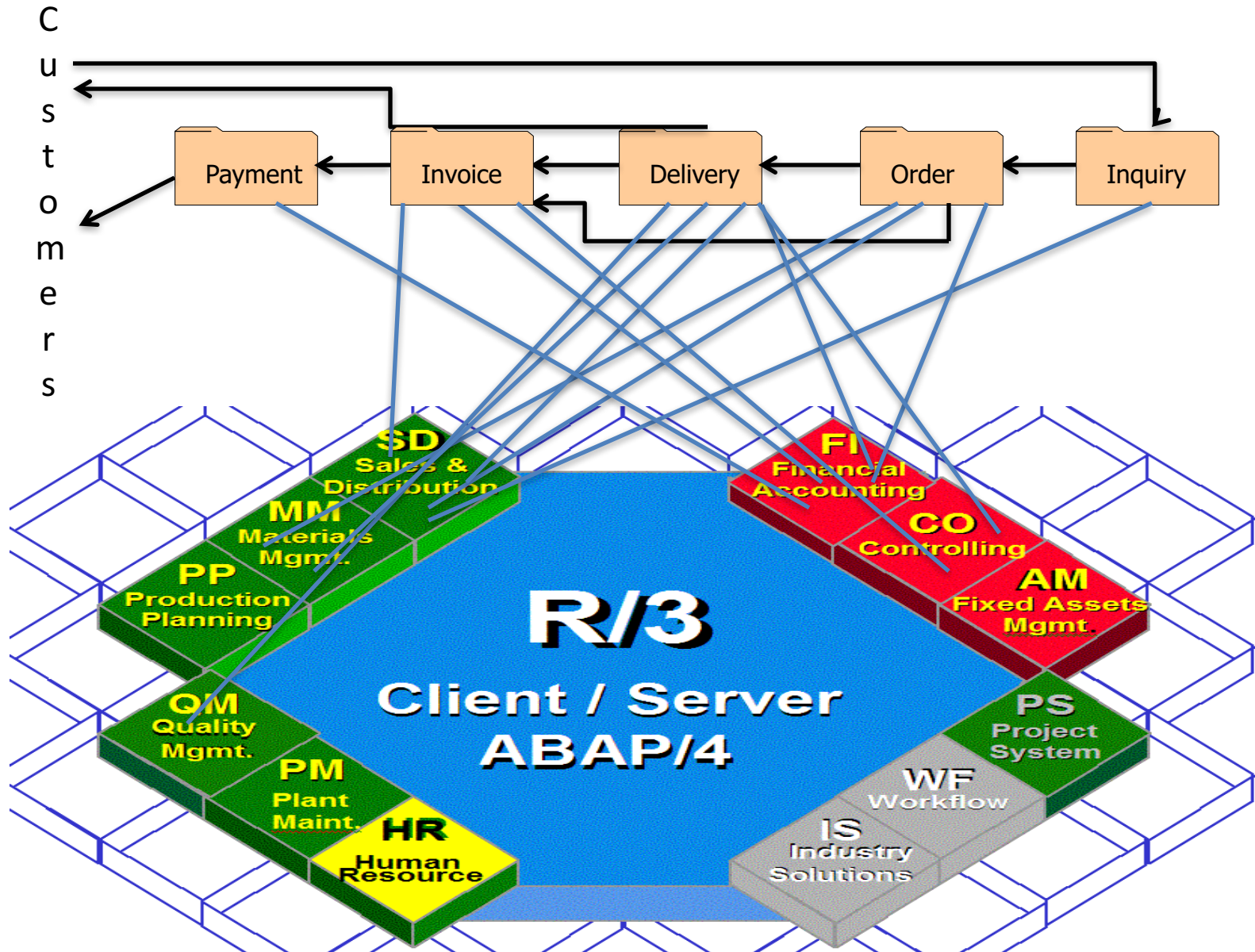
Order to Cash Process



Order to Cash at GBI



Order to Cash Functions in SAP



Order to Cash Functions in SAP

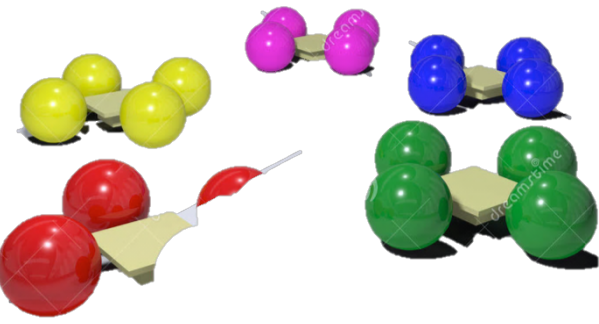
| Task | SD | MM | QM | FI | CO |
|-----------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Inquiry | <input checked="" type="checkbox"/> | | | | |
| Order | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Delivery | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Invoice | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Payment | | | | <input checked="" type="checkbox"/> | |



Breakout Activity

- ❖ 4-5 Person Teams (Random?)
- ❖ Use WebEx Groups
- ❖ A specific task, Question(s) to answer
- ❖ Record team results (recommend Word, Excel)
- ❖ Few teams will present results in class
- ❖ All send results to professor via e-mail (end of class)
- ❖ Fixed time to return (include a break)

RULES



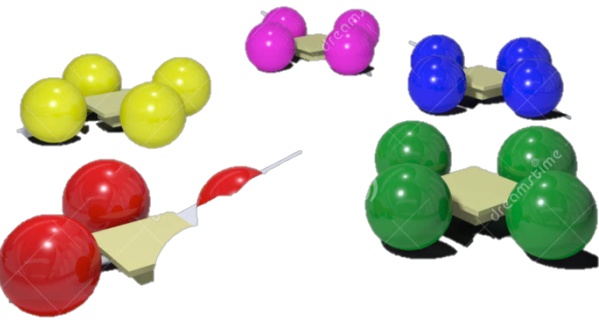
Breakout Activity

We've discussed the Procure to Pay Process in some detail.

Assume the process is well implemented using an ERP system.

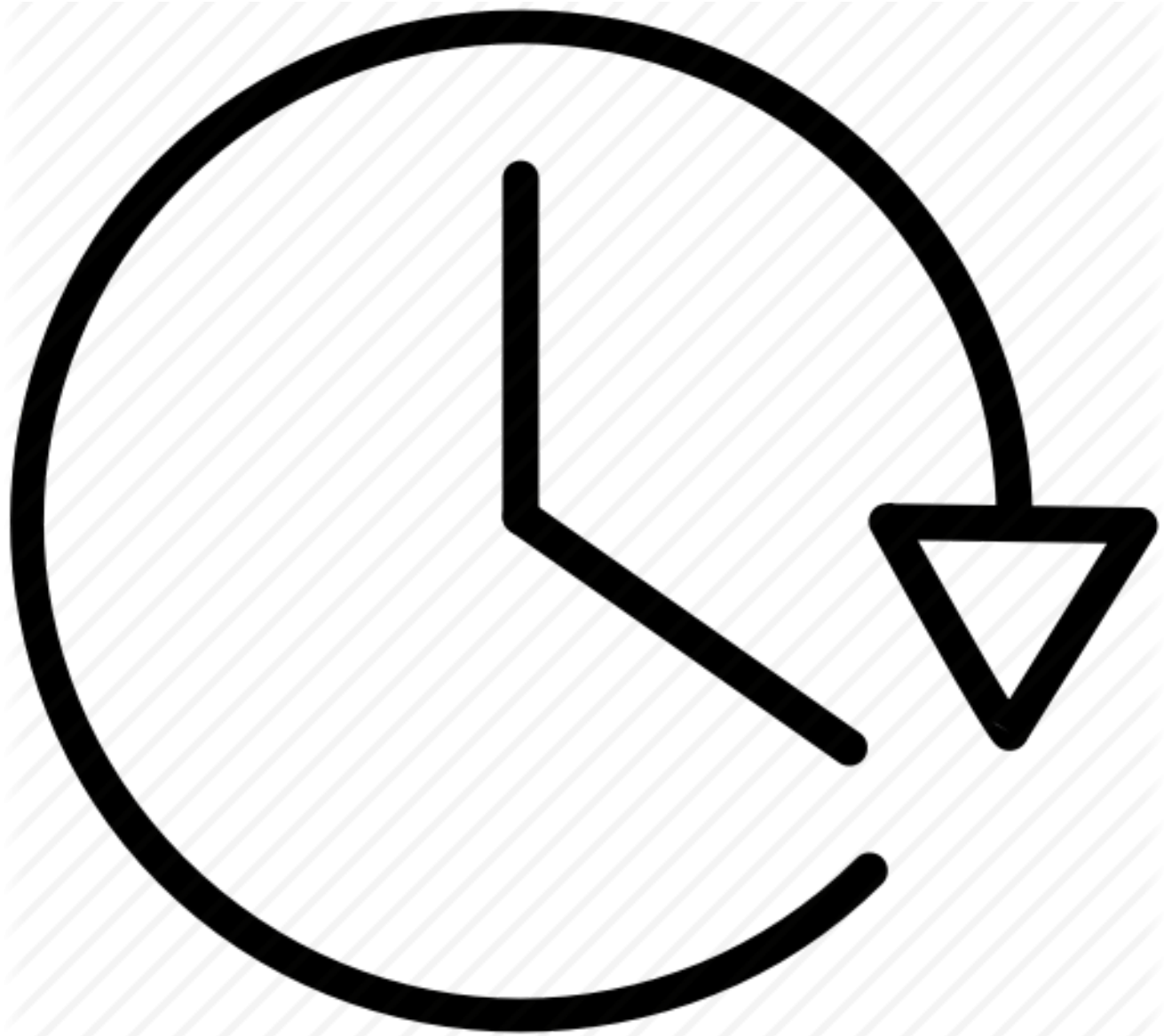
When the process works in a company (e.g. GBI):

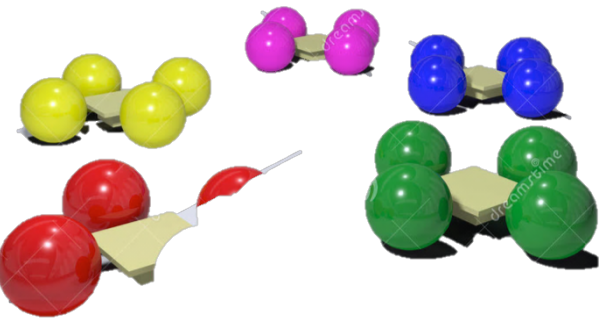
What could go wrong??



Breakout: Discussion

- ❖ 4-5 Person Teams (Random?)
- ❖ Use WebEx Groups
- ❖ A specific task, Question(s) to answer
- ❖ Record team results (recommend Word, Excel)
- ❖ **Few teams will present results in class**
- ❖ All send results to professor via e-mail (end of class)
- ❖ Fixed time to return (include a break)





Breakout: Discussion

- ❖ 4-5 Person Teams (Random?)
- ❖ Use WebEx Groups
- ❖ A specific task, Question(s) to answer
- ❖ Record team results (recommend Word, Excel)
- ❖ **Few teams will present results in class**
- ❖ All send results to professor via e-mail (end of class)
- ❖ Fixed time to return (include a break)

Risk



Definition

‘Probability or threat of damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal vulnerabilities, and that may be avoided through preemptive actions (controls?)’

Business Dictionary

‘Anything that could go wrong’

Class Definition



Purchase-to-Pay Exercise



- Primary Learning objectives
 - Experience the steps in a typical purchasing transaction
 - See how an ERP system handles typical purchasing transactions
 - Work through the procedures involved in a test of transactions
 - Investigate related application controls in an ERP system
- Secondary learning objectives:
 - See the integration between materials management (MM) and financial accounting (FI) modules of SAP
 - View some basic FI module settings than enable proper system functions

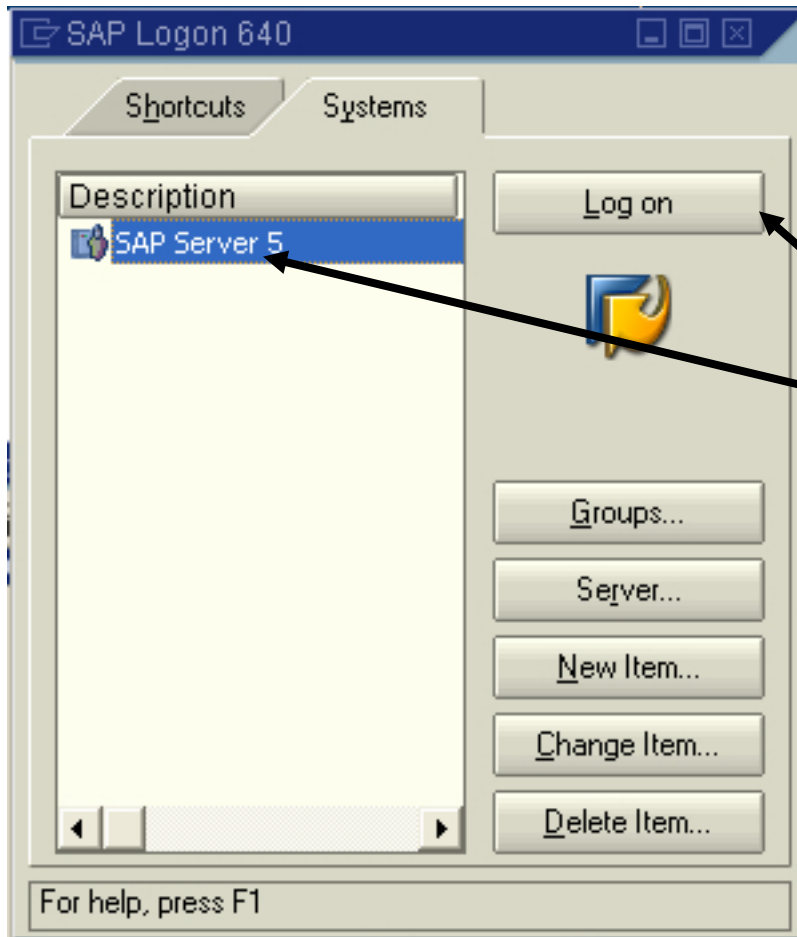


Exercise 1: Purchase to Pay



- Agenda
 - Today: Logging On; Steps 1 - 6
 - Next Class (*September 19*): Steps 7 - 14
 - *Due September 22 @ 11:59 PM*: Assignment Submission

Configured SAP Gui



Select System:
double-click or
Logon button

Logging On

The screenshot shows the SAP R/3 login interface. At the top, there is a menu bar with 'User', 'System', and 'Help'. Below the menu bar is a toolbar with various icons. The main area is titled 'SAP R/3' and contains a 'New password' button. The login fields are: 'Client' with the value '000', 'User' with a yellow highlight, 'Password' with asterisks, and 'Language' with a yellow highlight. Three black arrows point from text labels on the right to the Client, User, and Password fields.

Enter Client

Enter User (R/3 Account)

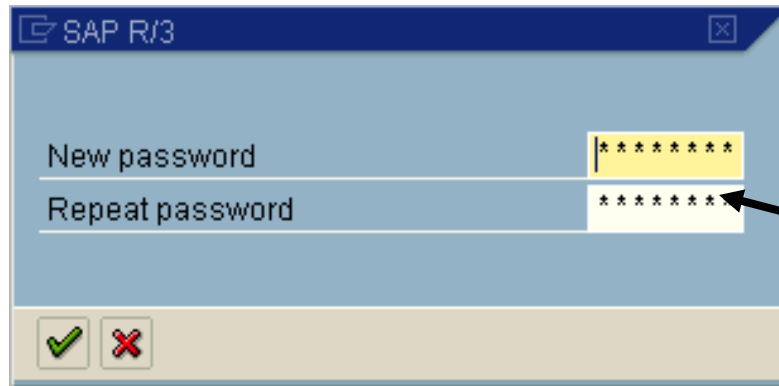
Enter Password (R/3 Account)

Don't worry about language—
English will default in

SAP Access Details

| | |
|---|--|
| SAPGUI - System ID | GB5 |
| Host Name | GB5.UCC.UWM.EDU |
| Client Name | SAP ERP GBI AIS 2.21 (MCC) |
| Client Number | 644 |
| SAPGUI - System Number | 00 |
| Student Userids | AIS-002 to AIS-0044 (See assignments in Roster) |
| Student Passwords (case sensitive) | TempleUN |

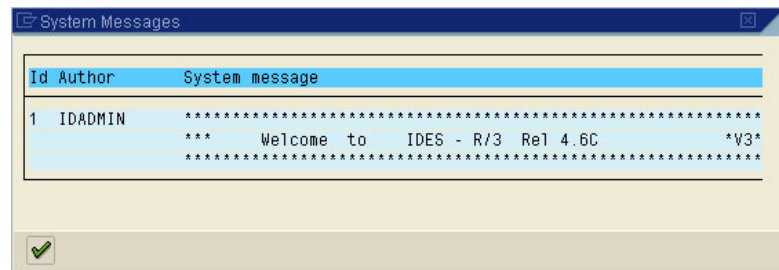
Logging On ...2



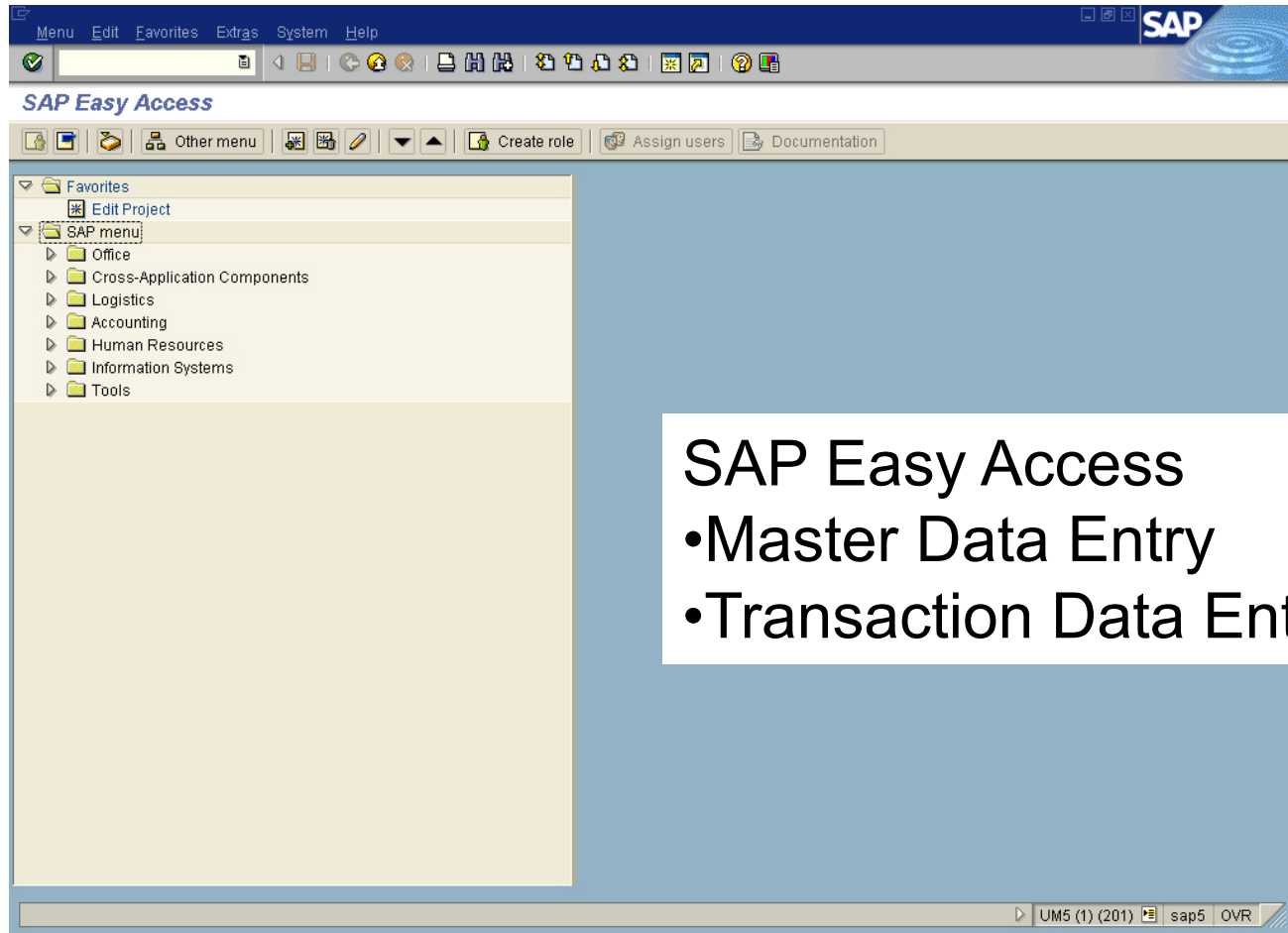
On the first time logging in to a new account, you will have to change the password—try To remember your new Password WITHOUT WRITING IT DOWN!

Then a message or two

Then



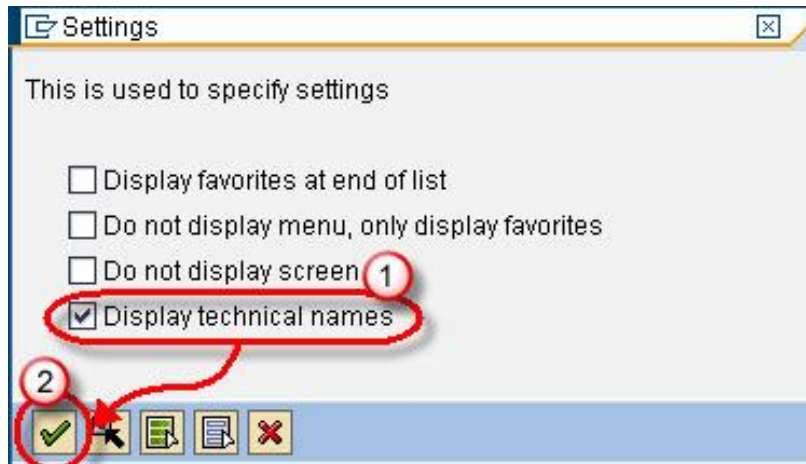
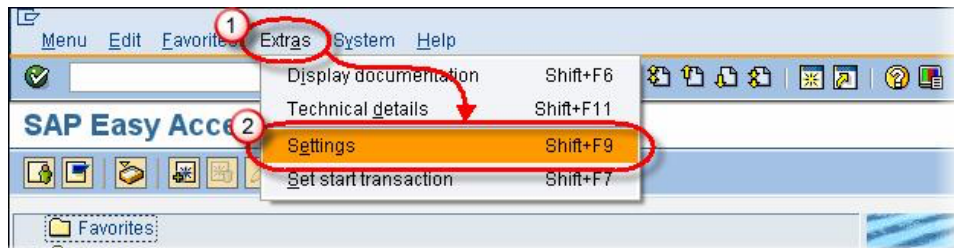
Success !!



SAP Easy Access

- Master Data Entry
- Transaction Data Entry

Enable 'Expert' Mode



Also: Extras -> Technical Details



Exercise 1: Purchase to Pay



- Task 1.1 - Examine the Chart of Accounts
 - Menu: **Accounting** ▶ **Financial Accounting** ▶ **General Ledger** ▶ **Information System** ▶ **General Ledger Reports (New)** ▶ **Master Data** ▶ **Chart of Accounts**
 - Transaction: **S_ALR_87012326**

- Task 1.2-3 - Examine General Ledger Accounts
 - Menu: **Accounting** ▶ **Financial Accounting** ▶ **General Ledger** ▶ **Master Records** ▶ **G/L Accounts** ▶ **Individual processing** ▶ **Centrally**
 - Transaction: **FS00**



Exercise 1: Purchase to Pay



- Task 2 - Examine System Settings
 - Menu: **Tools** ▶ **Customizing** ▶ **IMG** ▶ **Execute Project**
 - Transaction: **SPRO**
 - Do not make any changes to the system while you are in the IMG.**
 - Expand SAP Reference IMG: **Financial Accounting (New)** ▶ **Financial Accounting Global Settings (New)** ▶ **Global Parameters for Company Code** ▶ **Enter Global Parameters**
- Task 3 - Create a Master Material Record
 - Menu: **Materials Management** ▶ **Material Master** ▶ **Material** ▶ **Create (Special)** ▶ **Trading Goods**
 - Transaction: **MMH1**



Exercise 1: Purchase to Pay



- Task 4 - Create a Vendor Master Record
 - Menu: **Logistics** ▶ **Materials Management** ▶ **Purchasing** ▶ **Master Data** ▶ **Vendor** ▶ **Central** ▶ **Create**
 - Transaction: **XK01**
 - Expand SAP Reference IMG: **Financial Accounting (New)** ▶ **Financial Accounting Global Settings (New)** ▶ **Document** ▶ **Tolerance Groups** ▶ **Define Tolerance Groups for Employees**
- Task 5 – Create Information Record for the Vendor/Material
 - Menu: **Logistics** ▶ **Materials Management** ▶ **Purchasing** ▶ **Master Data** ▶ **Info Record** ▶ **Create**
 - Transaction: **ME11**



Exercise 1: Purchase to Pay



- Task 6 - Check Status of Various Accounts
 - Check Inventory: MM Inventory Quantity
Transaction: **MMBE** (*Stock Overview*)
 - Check GL Inventory, GL Cash, GL A/P, GR/IR (Goods Received / Invoice Received):
Transaction: **S_ALR_87012291** (*Line Item Journal*)
Recommend: Use **/MIS5121** Layout Variant
 - Check A/P Vendor sub-ledger:
Transaction: **FBL1N** (*Vendor line item display*)

Extra Slides

Activity to Date in SAP

Information System ▷ General Report Selection ▷ Financial Accounting ▷ General Ledger Reports ▷ Document ▷ General ▷ Line Item Journal ▷ Line Item Journal Transaction: S_ALR_87012291

Line Item Journal

Menu ◀ | Save as Variant... | Ba

Company code: 82fs

Document Number: []

Fiscal Year: 2015

Ledger: FS

Enter company code ##FS, and Fiscal Year then click execute icon

- Hit 'Sort in Ascending Order' icon
- Highlight & remove all current 'Sort Fields' (Double arrow to right).
- Choose the listed fields 1 by 1 from the list on the right and move to the 'Sort Fields' list (single arrow to left).
- Click Copy icon

Define Sort Order

| Sort fields | Column content | | |
|-----------------|----------------------------------|-----------------------|--|
| Company Code | <input checked="" type="radio"/> | <input type="radio"/> | |
| Posting Date | <input checked="" type="radio"/> | <input type="radio"/> | |
| Document Number | <input checked="" type="radio"/> | <input type="radio"/> | |
| Account | <input checked="" type="radio"/> | <input type="radio"/> | |

| Field list | Col. content |
|-------------------|--------------------------|
| Account Type | <input type="checkbox"/> |
| Document Type | <input type="checkbox"/> |
| Sp.G/L trans.type | <input type="checkbox"/> |
| Posting period | <input type="checkbox"/> |
| Entry Date | <input type="checkbox"/> |
| Line item | <input type="checkbox"/> |
| Document Date | <input type="checkbox"/> |
| Business Area | <input type="checkbox"/> |
| Posting Key | <input type="checkbox"/> |
| Special G/L ind. | <input type="checkbox"/> |
| Sales-Related | <input type="checkbox"/> |
| User Name | <input type="checkbox"/> |

Copy icon

Activity to Date in SAP

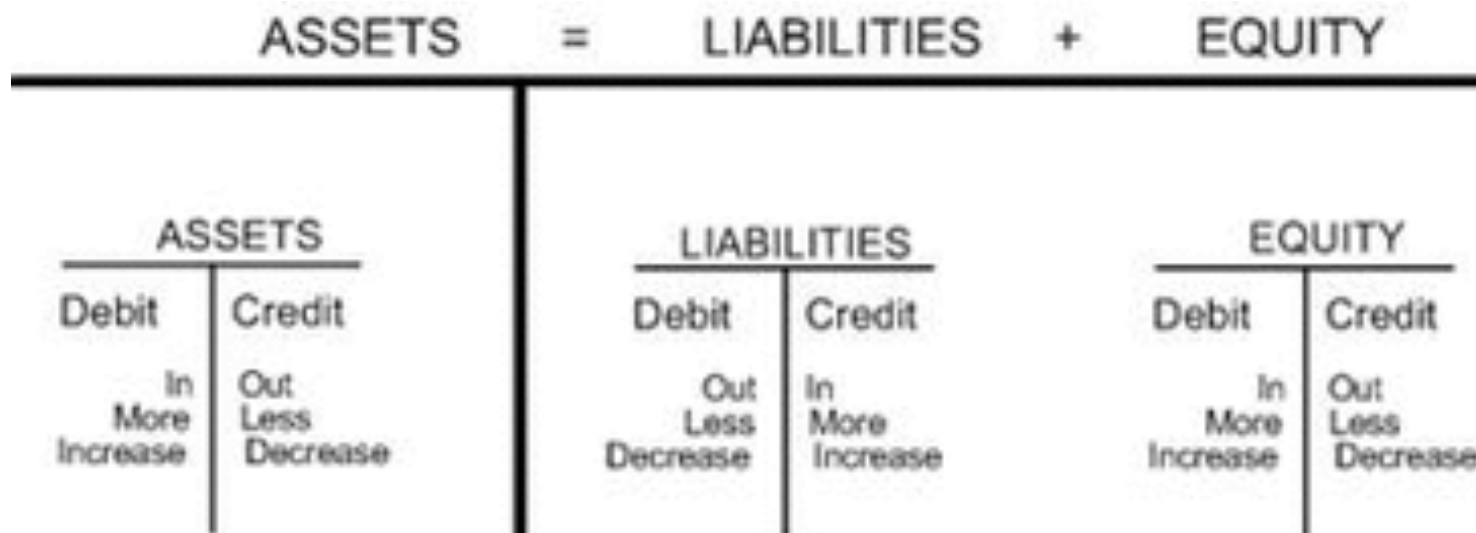
Activity from previously executed process steps (e.g. Sales Process, etc.) are listed.

Note: Offsetting Debits and Credits for each document

| Line Item Journal | | | | | | | | | | | | | | | | | | | | | |
|-------------------|------------|------------|-----------|------------|----------|--------|--------|--------|---------|-----------------------------|-------|-------------------------|----|--------------------------|---|------------|--|---------------|--|-------|--|
| Menu | | Back | | Exit | | Cancel | | System | | Details | | Sort in Ascending Order | | Sort in Descending Order | | Set Filter | | Delete Filter | | Total | |
| 82 Fitter Snacker | | | | | | | | | | Line Item Journal | | | | | | | | | | | |
| Kalamazoo | | | | | | | | | | Ledger FS | | | | | | | | | | | |
| | | | | | | | | | | Time 23:01:30 Date 11/14/15 | | | | | | | | | | | |
| | | | | | | | | | | RFEP0J00/FSFAC-09 Page | | | | | | | | | | | |
| Pstng Date | Entry Date | DocumentNo | Itm | Doc. Date | BusA | PK | SG | Sl | Account | User Name | LCurr | Amount in LC | Tx | Assignment | S | | | | | | |
| CoCode | | 82FS | Acct Type | D Type | RV SpG/L | | Period | | 201510 | | | | | | | | | | | | |
| 10/30/2015 | 10/30/2015 | 90000000 | 1 | 10/30/2015 | | 01 | X | 83 | | FSFAC-09 | USD | 2,655.00 | | 0090000007 | | | | | | | |
| CoCode | | 82FS | Acct Type | S Type | RV SpG/L | | Period | | 201510 | | | | | | | | | | | | |
| 10/30/2015 | 10/30/2015 | 90000000 | 2 | 10/30/2015 | | 50 | | 600000 | | FSFAC-09 | USD | 2,950.00- | | 20151030 | | | | | | | |
| 10/30/2015 | 10/30/2015 | 90000000 | 3 | 10/30/2015 | | 40 | | 610000 | | FSFAC-09 | USD | 295.00 | | 20151030 | | | | | | | |
| CoCode | | 82FS | Acct Type | D Type | DZ SpG/L | | Period | | 201510 | | | | | | | | | | | | |
| 10/30/2015 | 10/30/2015 | 1400000000 | 2 | 10/30/2015 | | 15 | | 83 | | FSFAC-09 | USD | 2,655.00- | | 20151030 | | | | | | | |
| CoCode | | 82FS | Acct Type | S Type | DZ SpG/L | | Period | | 201510 | | | | | | | | | | | | |
| 10/30/2015 | 10/30/2015 | 1400000000 | 1 | 10/30/2015 | | 40 | | 100000 | | FSFAC-09 | USD | 2,655.00 | | 20151030 | | | | | | | |
| CoCode | | 82FS | Acct Type | M Type | WL SpG/L | | Period | | 201510 | | | | | | | | | | | | |
| 10/30/2015 | 10/30/2015 | 4900000001 | 1 | 10/30/2015 | | 99 | | 200200 | | FSFAC-09 | USD | 2,448.00- | | 20151030 | | | | | | | |
| CoCode | | 82FS | Acct Type | S Type | WL SpG/L | | Period | | 201510 | | | | | | | | | | | | |
| 10/30/2015 | 10/30/2015 | 4900000001 | 2 | 10/30/2015 | | 81 | | 790000 | | FSFAC-09 | USD | 2,448.00 | | 20151030 | | | | | | | |

T-Accounts

- Tool to view activity in an account over period of time
- Useful tool to visualize impact of transaction series
- Beginning and ending balances sometimes included



T-Accounts

- Tool to view activity in an account over period of time
- Useful tool to visualize impact of transaction series

Stage 1 - Journals - Transaction recorded by date order

| General Journal | | #1001 | | |
|-----------------------------|---------------------|-------|------------|-------------|
| Date | Details | A/C # | Debit (Dr) | Credit (Cr) |
| 1 May 20XX | Cash | 301 | 10,000 | |
| | Loan - ABC Bank | 401 | | 10,000 |
| Loan funds received | | | | |
| 10 May 20XX | Cash | 301 | 1000 | |
| | Sales | 101 | | 1000 |
| Sale of inventory | | | | |
| 15 May 20XX | Electricity expense | 201 | 500 | |
| | Cash | 301 | | 500 |
| Payment of electricity bill | | | | |

Stage 2 - General Ledger - Transaction posted by account type

| Cash #301 | | Loan ABC #401 | |
|------------|-------------|------------------|-------------|
| Debit (Dr) | Credit (Cr) | Debit (Dr) | Credit (Cr) |
| 10,000 | 500 | | 10000 |
| 1,000 | | | |
| Sales #101 | | Electricity #201 | |
| Debit (Dr) | Credit (Cr) | Debit (Dr) | Credit (Cr) |
| | 1000 | | 500 |

Journals → Posted → General Ledger



Reading Assignment Questions:

- What is difference between ERP and SAP?
- What is the difference between compliance driven and profitability driven controls?
- Internal control system (ICS) generally focuses on compliance with legal regulation and profitability of business process. Can we look the 'compliance' as baseline objective and 'profitability' as additional objective?
- Does organization need to audit profitability, efficiency focused controls as legal controls are? How to bridge between legal reqmt of ICS vs. practical structure of ICS?
- How do you deal with client that is difficult to work with (e.g. not providing info to do your job)?
- What is error risk and what is discovery risk? Differences?
- With ICS, auditing, IT as an aid, etc. can we ever reach an absolute assurance position?
- Why is it hard to have a preventative control in ERP?
- Balanced Scorecard is a good tool for measuring and controlling the activities of an organization, which can work perfectly in an ERP environment. If it is used, when should we use the ICS?
- **There are so many different audits. Year end, transaction, software, etc. Which one is the best for each company to perform?**
- **Different countries have their own version of SOX. How does a company with locations in multiple countries know which version they should follow? Is it all based on *where* they issued stock? Or is there some other reasoning?**
- Why do you feel that each country has adopted and modified the SOX vs. agreeing and implementing a universal set of laws as the standard for all audits practices?
- Who is ultimately responsible for the failure to comply with the SOX laws? What governing body upholds the penalty either on a company level or world level?

Reading Assignment Questions:

- When outsourced transaction audits occur in different country, does outsourcing company have to meet compliance for both countries if falling under different compliance regions?
- Could you please clarify the difference between IT general controls and general application controls? Provide one example for each of those categories.
- Do ICS controls that focus on profitability and efficiency need to be audited just as controls focused on legal requirements are?
- The concepts of ICS and GRC are introduced in book. I understand ICS is part of integrated GRC approach but sometimes the terms are used interchangeably in book (e.g. section 1.5). What differentiates these practices?