

MIS 5121:Enterprise Resource Planning Systems  
Week 2: *Business Process – System Components, Assertions, Procure to Pay*

# Introduction: New Students

*Please Prepare a Name Card*

- Name
- Why in this course  
*OK to say 'it's Just a Requirement*
- Unique experience, skills you bring to the class  
Include 1 Supply Chain you've dealt with and in what Role (e.g. customer, \_\_\_\_)

# 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://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

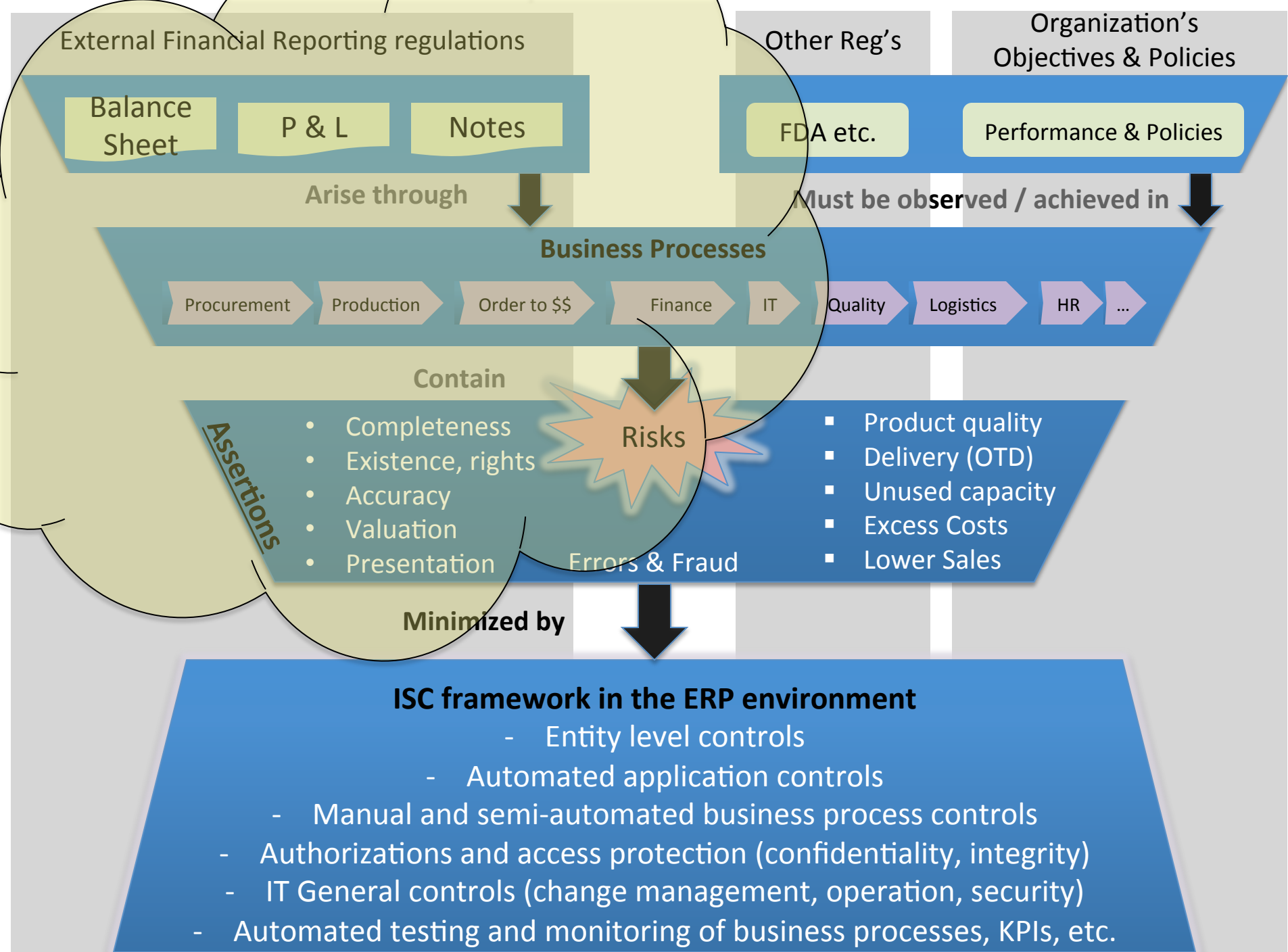
- Product quality
- Delivery (OTD)
- Unused capacity
- Excess Costs
- Lower Sales

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



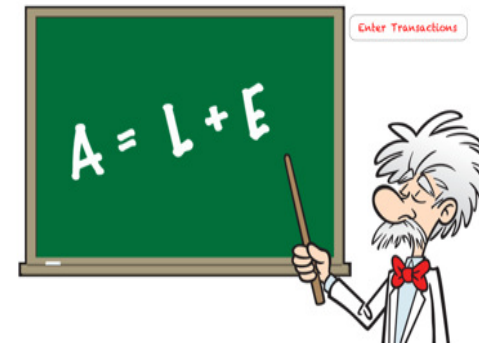


# The Accounting Equation

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

- **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

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

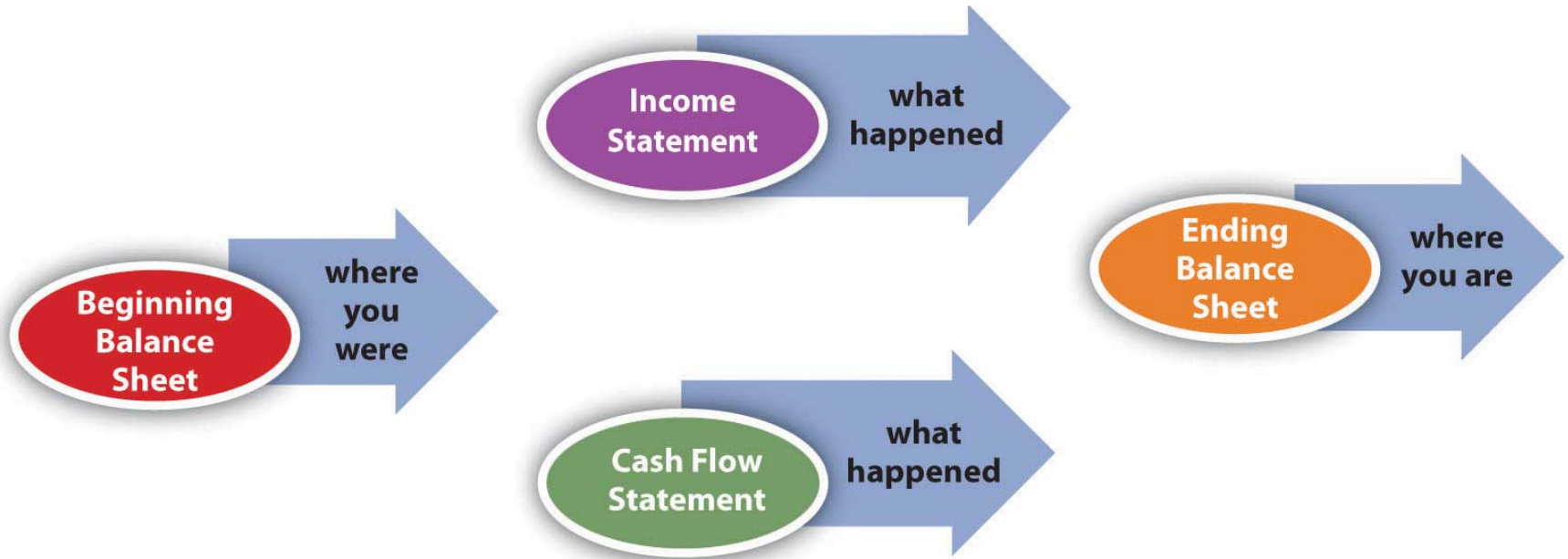


# My Asset is Your Liability

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:

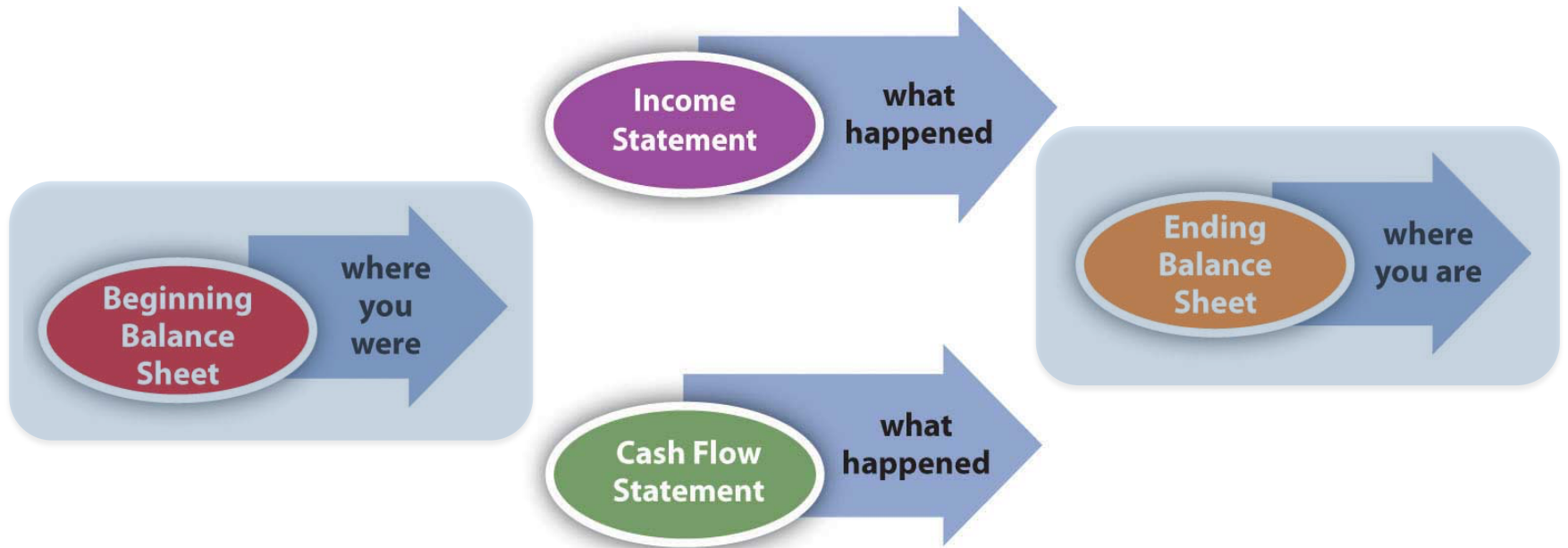
[http://www.temple.edu/controller/financial\\_statements/Fiscal2014ConsolidatedStatementspkg-Final.pdf](http://www.temple.edu/controller/financial_statements/Fiscal2014ConsolidatedStatementspkg-Final.pdf)

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](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:** 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

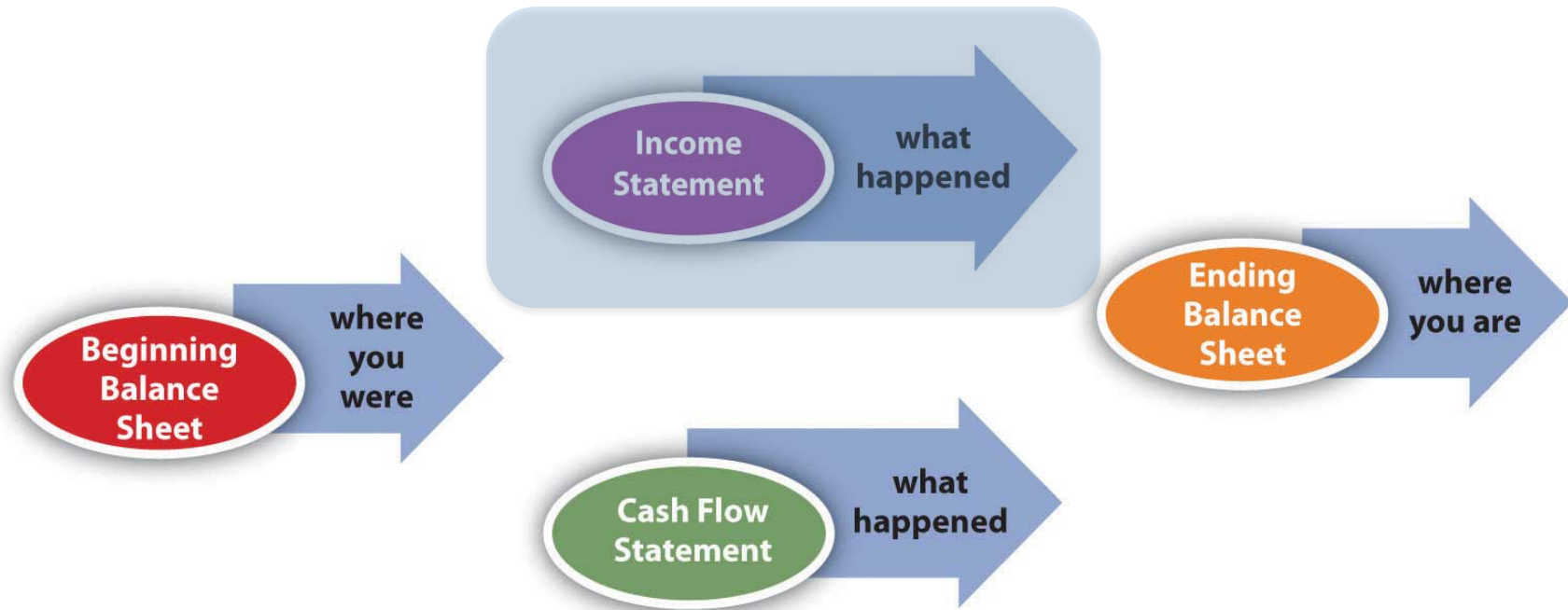
- **Long Term (non-Current):** Everything not current  
e.g. Property, Plants, Equipment, Note Payments > 12 months



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

	June 30, 2015	June 30, 2014
<b>Current assets:</b>		
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
<b>Total current assets</b>	<u>1,546,402</u>	<u>1,511,672</u>
<b>Non-current assets:</b>		
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
<b>Total non-current assets</b>	<u>2,756,130</u>	<u>2,766,339</u>
<b>Total assets</b>	<u><u>\$4,302,532</u></u>	<u><u>\$4,278,011</u></u>
<b>Current liabilities:</b>		
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
<b>Total current liabilities</b>	<u>470,495</u>	<u>468,487</u>
<b>Non-current liabilities:</b>		
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
<b>Total non-current liabilities</b>	<u>1,647,386</u>	<u>1,656,493</u>
<b>Total liabilities</b>	<u>2,117,881</u>	<u>2,124,980</u>
<b>Net assets:</b>		
Unrestricted	1,651,970	1,642,977
Temporarily restricted	125,279	137,569
Permanently restricted	407,402	372,485
<b>Total net assets</b>	<u>2,184,651</u>	<u>2,153,031</u>
<b>Total liabilities and net assets</b>	<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](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 Stmt: 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)

	<b>Unrestricted Net Assets</b>	<b>Temporarily Restricted Net Assets</b>	<b>Permanently Restricted Net Assets</b>	<b>Total Net Assets</b>
<b>Revenues:</b>				
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)		
<b>Total revenues</b>	<b>2,701,507</b>	<b>6,712</b>	<b>15,704</b>	<b>2,723,923</b>
<b>Expenses:</b>				
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
<b>Total expenses</b>	<b>2,686,982</b>	<b>0</b>	<b>0</b>	<b>2,686,982</b>

# 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

**Assets = Liabilities + Owner's Equity**

**Debits = Credits**

*Cash Account*

1904		Dr.	Cr.
Jan 1	Cash on hand	234 17	
	Paid Jan. rent to C. L. Isaacs		15
3	Cash sales		2 60
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



# 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 1: Loan Funds Received

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

- Ex 2: Cash Sale

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

- Ex 3: 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				

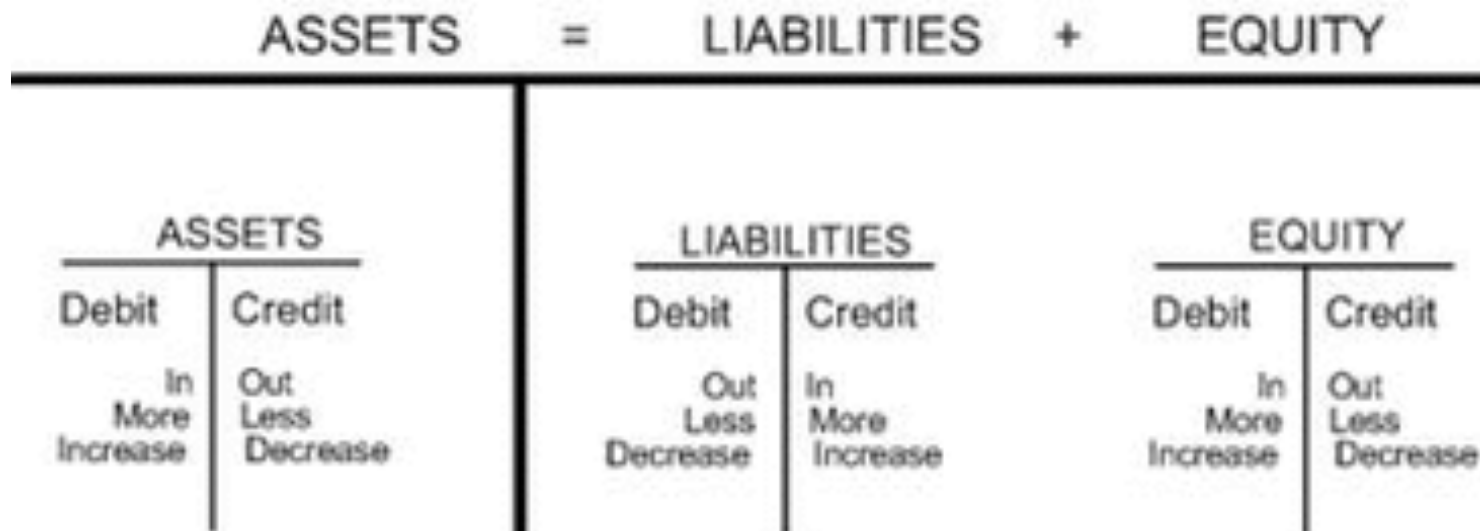
15 May 20XX	Electricity expense	201	500	
	Cash	301		500
Payment of electricity bill				

Journals ————— Pc



# 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

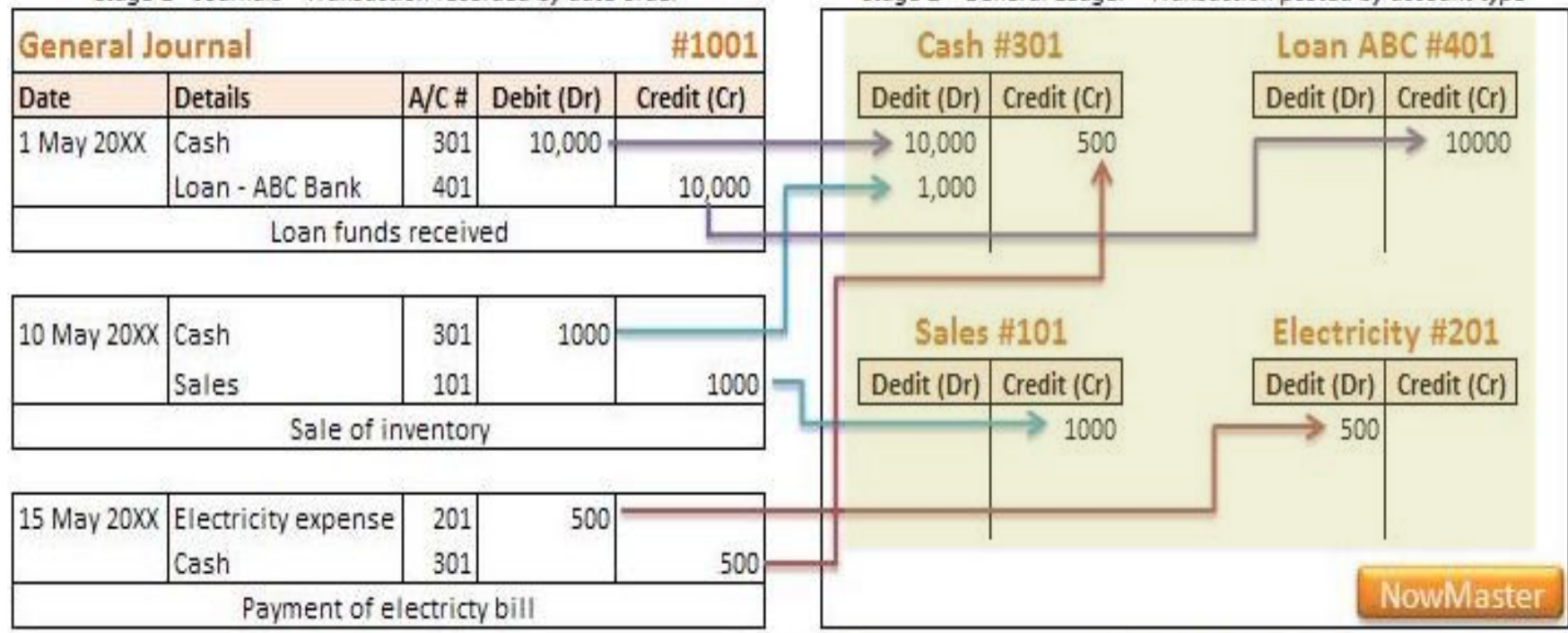


# T-Accounts

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

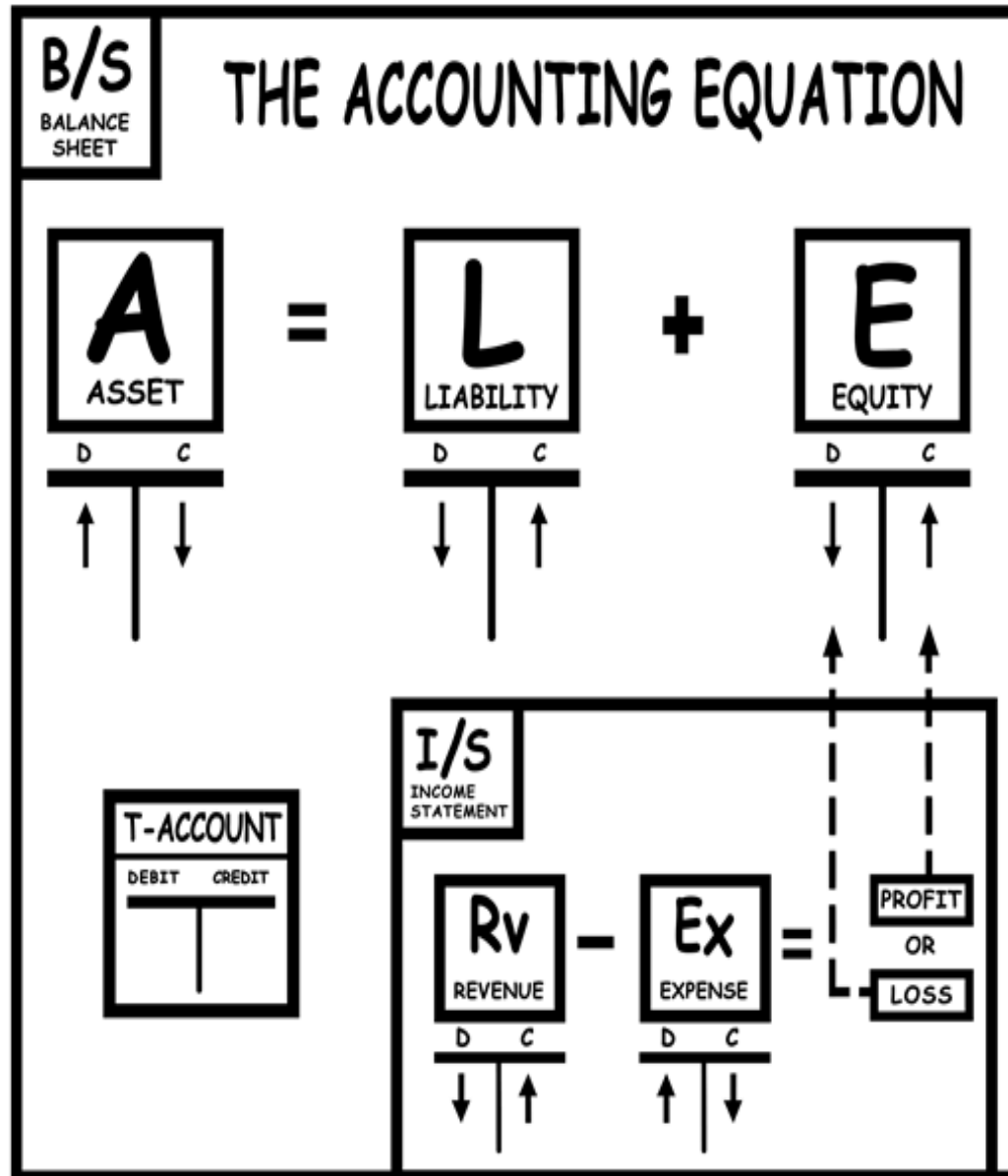
Stage 1 - Journals - Transaction recorded by date order

Stage 2 - General Ledger - Transaction posted by account type



**Journals** ————— **Posted** ————— **General Ledger**

# 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 Assertions

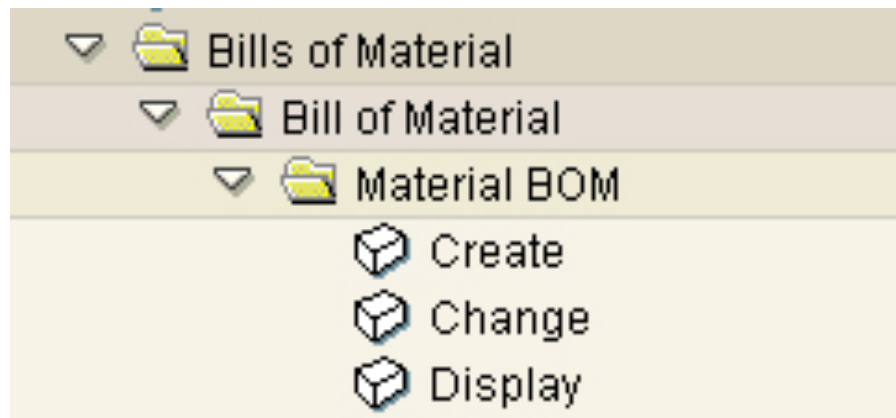


- Occurrence:
  - Recorded transactions exist
  - Transactions actually occurred during the period
- Existence:
  - Evidence the assets, liabilities and equity balances exist (have real world counterpart)
  - Exist at a given date
- Timing (cutoff):
  - Transactions recorded in proper accounting period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

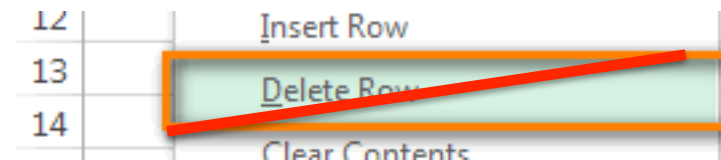
	Andhra Pradesh	Andhra Apathan	Research/Spices Service Center
OPERATING REVENUES AND SUPPORT	\$1,025,883	\$6,477,036	—
	5,016,272	3,959,389	—
	92,008	749,854	—
	95,452	41,309	—
	1,661,837	30,581	—
	—	2,267,778	—

# 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 Assertions

- 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 Pursh	Andhra Aparatam	Research/Spetras Sertval Center
OPERATING REVENUES AND SUPPORT	\$1,025,883	\$6,477,036	—
	5,016,272	3,995,389	—
	92,008	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	—	—
18	—	—

# Management Assertions

‘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
<b>OPERATING REVENUES AND SUPPORT</b>			
Operating Revenues	\$1,025,843	\$6,477,036	—
Operating Support	501,527	3,995,189	—
Operating Support & Gift Shop	90,208	748,854	—
Operating Support & Educational Activities	96,452	41,869	—
	1,663,837	80,811	—
	609,894	2,257,278	—
	—	(60,347)	—
	435,408	3,580,030	280,369
	70,817	471,781	208,289
	3,871,891	(4,215,717)	1,376,054
	708,447	80,960	—
	\$16,458,509	\$14,419,274	\$1,864,712
<b>NON-OPERATING ITEMS*</b>			
Gain on Sale of Fixed Assets	2,580,350	1,642,843	1,981,621
Operating Expenses	2,714,329	3,490,300	372,906
Operating Expenses	3,840,521	2,211,992	—
Operating Expenses	178,865	283,808	—
Operating Expenses	1,829,257	233,815	—
Operating Expenses	833,225	895,323	—
Operating Expenses	823,734	18,581	17,687

	2004	2005
<b>Balance Sheet</b>		
<i>As at 31 December 2005</i>		
Notes		
16		
18		
19		

# Management Assertions

## Taxonomy for class

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

	Audited Period	Audited Amount	Research Expense Service Center
<b>OPERATING REVENUES AND SUPPORT</b>		\$6,477,036	—
Admission	\$3,025,843	3,995,189	—
Concessions, Catering & Gift Shop	5,013,272	748,854	—
Membership Support	90,268	41,867	—
Medical Support & Fee	96,452	80,281	—
Philanthropic & Educational Activities	1,663,837	2,257,778	—
Other	669,894	—	—
		(660,347)	—
<b>NON-OPERATING ITEMS*</b>		3,580,050	280,369
Other Services Related to Operations	435,408	471,781	208,285
Investment Income	70,817	—	—
Interest on Tax Matters	3,871,891	(4,215,217)	1,376,054
Investment Management Income	708,447	—	80,360
Operating Expenses			
Operating Expenses	\$16,458,509	\$14,419,274	\$1,864,712
Operating Expense			
<b>TOTAL REVENUES</b>		2,550,350	1,981,421
<b>OPERATING EXPENSES*</b>		2,714,329	3,490,310
General & Research Activities	3,840,521	2,211,992	—
Operations, Maintenance & Utilities	178,865	283,808	—
Other Services, Catering & Gift Shop	1,829,257	233,815	—
Other Services	832,225	895,323	—
Membership Services	823,7934	18,581	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)~~

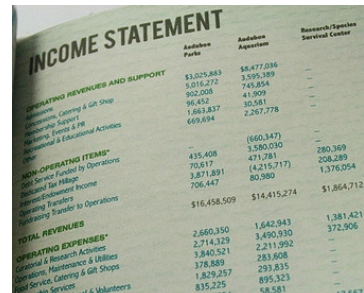
~~Computer expenses: xxx (Huge Decrease)~~

NET INCOME xxx (Huge Increase)

**Removed From  
Income Statement**

**Removed From  
Income Statement**

**= HAPPY INVESTORS**



	Airbus Parks	Airbus Americas	Research/Support Services Center
<b>OPERATING REVENUES AND SUPPORT</b>	\$3,025,883	\$8,477,036	—
Commissions	\$0,015,272	743,854	—
License, Training & On Shop	902,008	41,909	—
Partnership Support	16,452	30,581	—
Marketing, Events & PR	1,663,837	2,257,278	—
Governmental & Educational Activities	669,694	—	—
Other	—	(660,347)	—
<b>NON-OPERATING ITEMS*</b>	—	1,500,000	280,369
Gain (Loss) from Disposal of Assets	435,408	471,281	208,289
Interest Income	70,817	(4,215,717)	1,376,054
Interest Expense	(3,871,891)	—	—
Other	706,447	80,980	—
<b>OPERATING INCOME</b>	\$16,458,509	\$14,415,274	\$1,864,712
Goodwill Impairment	—	—	—
Other	—	—	—
<b>NET INCOME</b>	\$16,458,509	\$14,415,274	\$1,864,712
<b>OPERATING EXPENSES*</b>	2,660,350	1,642,943	1,381,421
Depreciation	2,714,329	3,470,930	372,906
Amortization	3,840,521	2,211,992	—
Goodwill Impairment	378,889	—	—
Other	1,829,257	283,608	—
Research & Development	835,225	895,323	—
Other	—	—	—

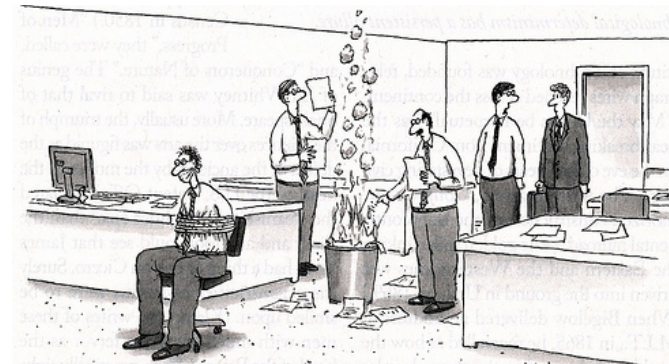
# How the Fraud took place (con' t)

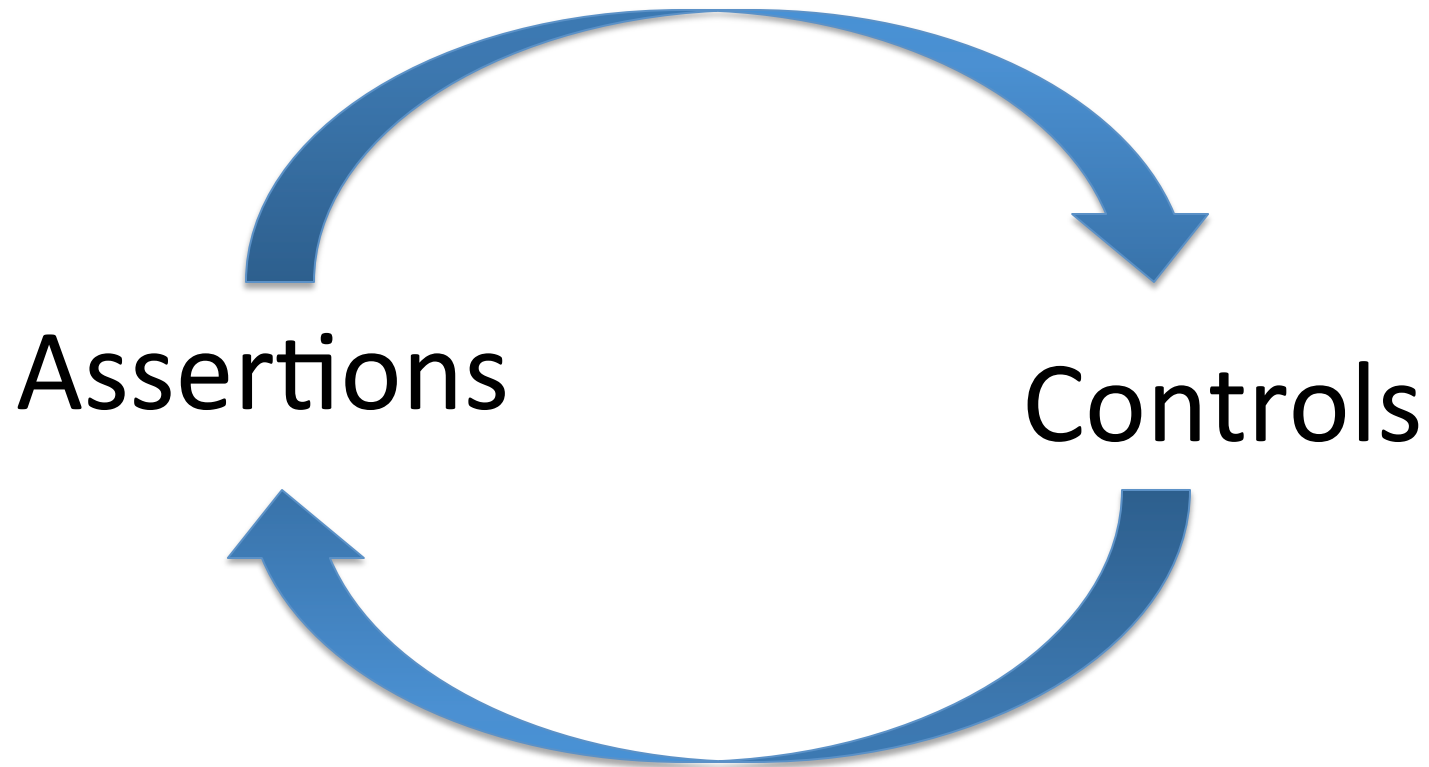
- Operating Expenses into Assets
  - WorldCom's journal entry for \$500 million in computer expenses:

**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





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

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.

# Application Controls (ERP)

- Controls designed into ERP System (e.g. SAP)
- Important part of an integrated information system – ERP system
- Embedded within system and how the application works
- Essential to the system functioning properly
- For additional information about these controls see ISACA (Information System Audit and Control Association), website [www.isaca.org](http://www.isaca.org).





# Application Controls (ERP)

- **Field check:** \_\_\_\_\_
- **Sign check:** \_\_\_\_\_
- **Range check:** \_\_\_\_\_
- **Limit check:** \_\_\_\_\_
- **Size (or capacity) check:** \_\_\_\_\_
- **Completeness check:** \_\_\_\_\_
- **Validity check:** \_\_\_\_\_
- **Reasonableness test:** \_\_\_\_\_



# Application Controls (ERP)

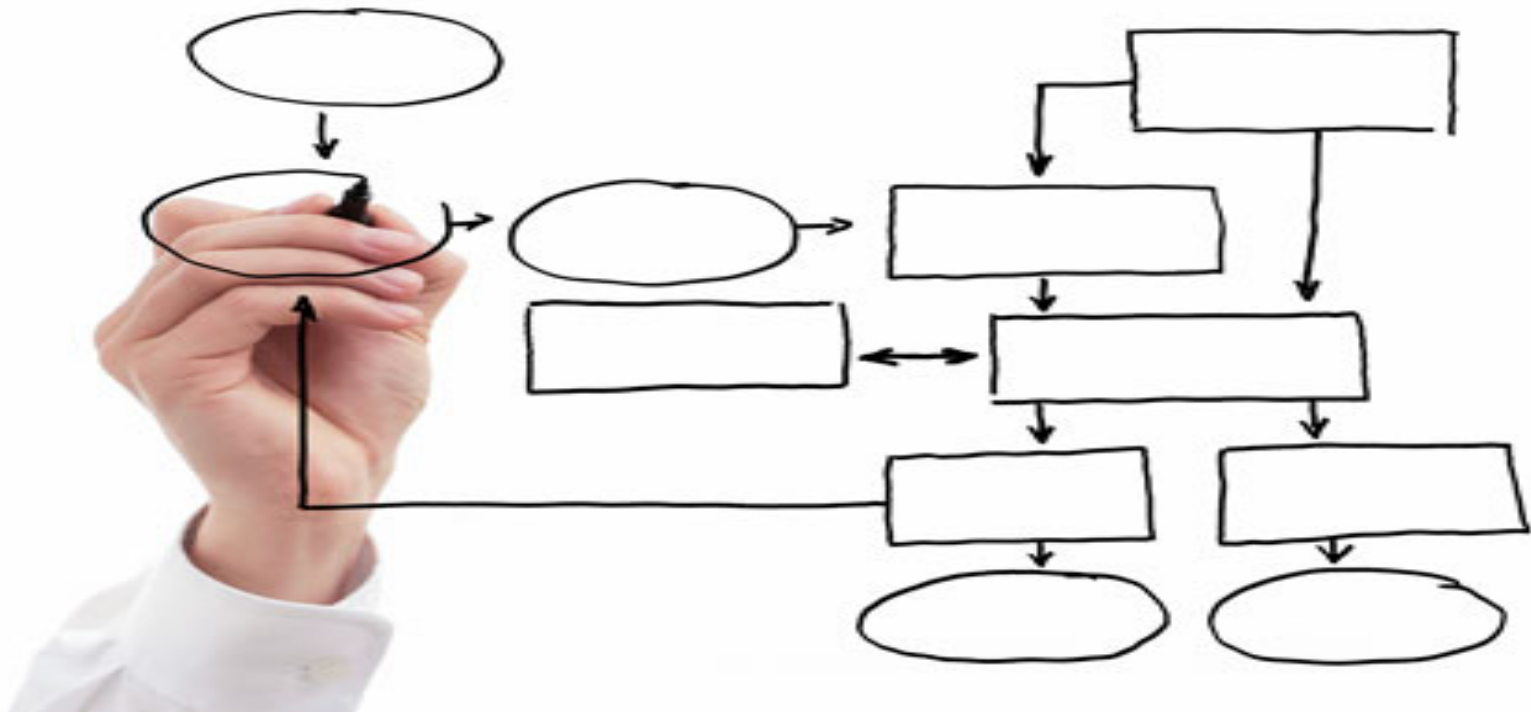
- **Field check:** data matches the structural definition of the data element  
e.g. characters (numeric vs. character), # decimal places, etc.
- **Sign check:** data matches the defined sign limits (if any) for the field  
e.g. credit values must have negative sign in accounting entries
- **Range check:** data is within a specified range of values  
e.g. the month of a person's date of birth should lie between 1 and 12.
- **Limit check:** Unlike range checks, data are checked for one limit only, upper OR lower  
e.g. data should not be greater than 2



# Application Controls (ERP)

- **Size (or capacity) check:** data results within defined or dynamic size / capacity  
e.g. maximum quantity per bin in inventory storage type
- **Completeness check:** all necessary data values are entered to allow correct processing  
e.g. data fields entered defined completion rules for transaction
- **Validity check:** data matches cross-reference 'check' table entries  
e.g. Company code matches configured values
- **Reasonableness test:** data reasonable in relation to other supplied data  
e.g. execution Date is today +/- X days (common variation)

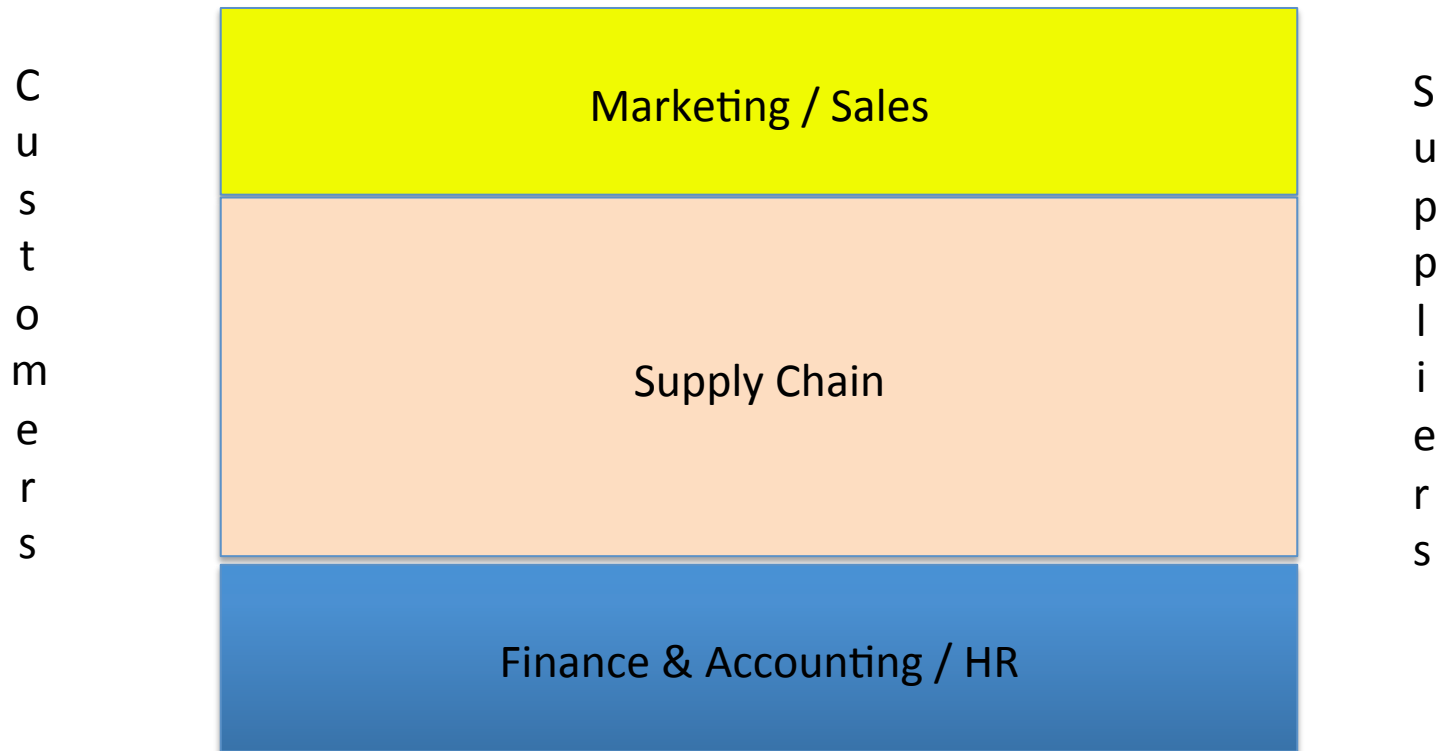




Integration of:

- Business Organization
- Business Process
- ERP / SAP Functions

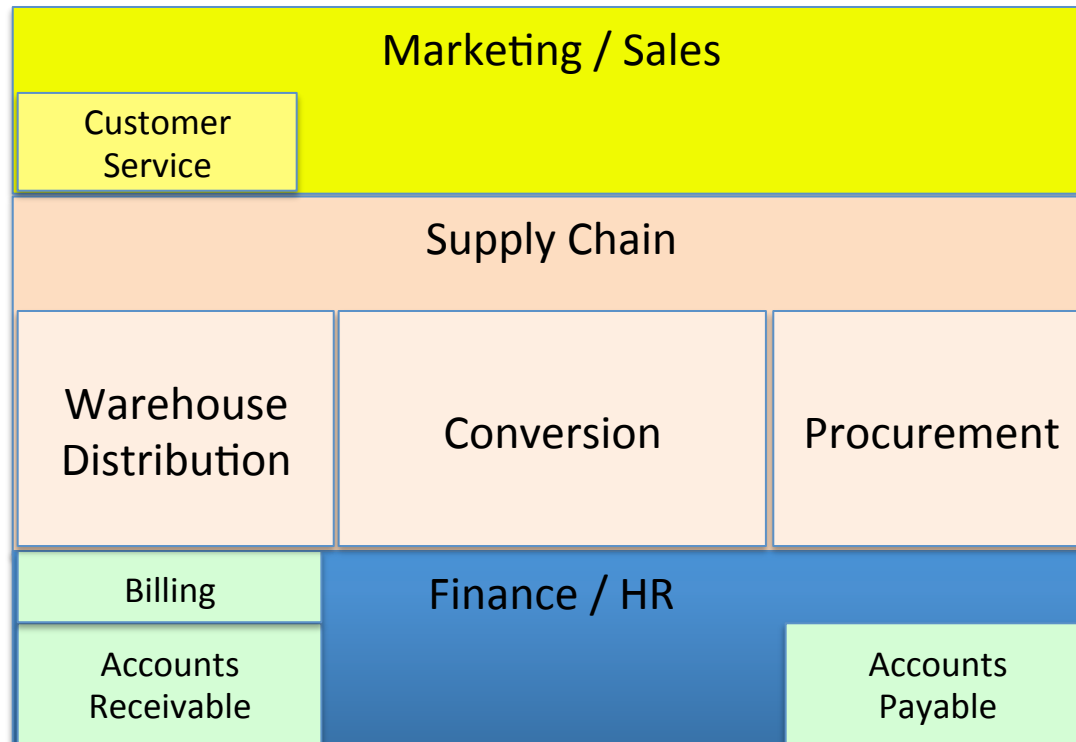
# Business Functions / Organization



# Global Bike Organization



C  
u  
s  
t  
o  
m  
e  
r  
s



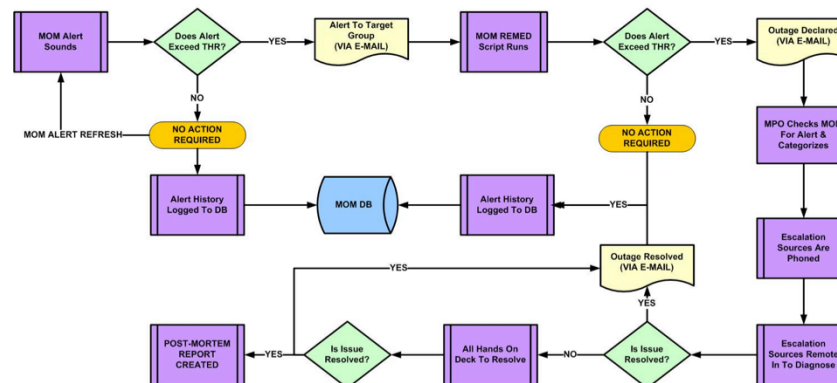
S  
u  
p  
p  
l  
i  
e  
r  
s

# Business Process

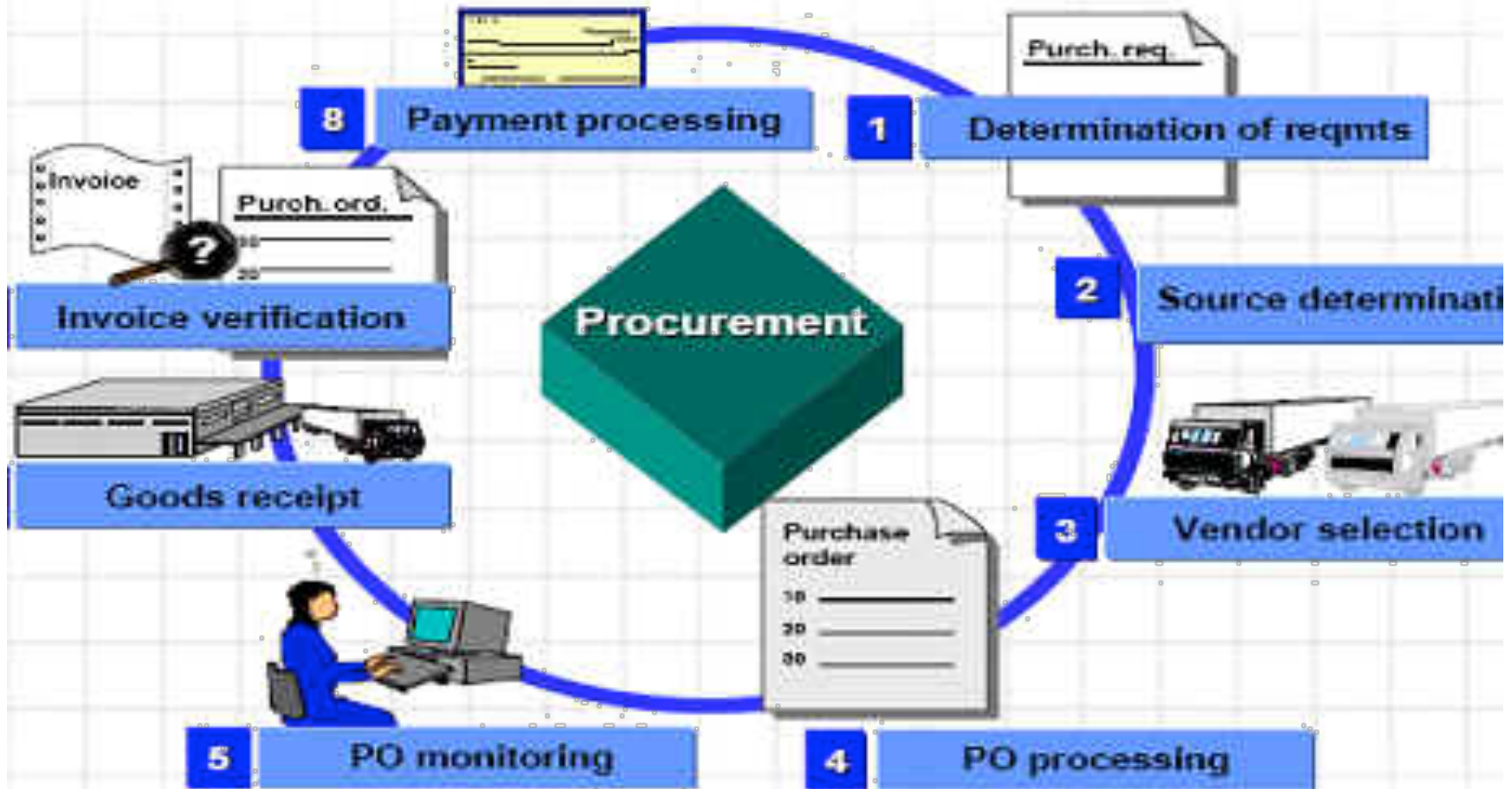
## Definition

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

Business Dictionary

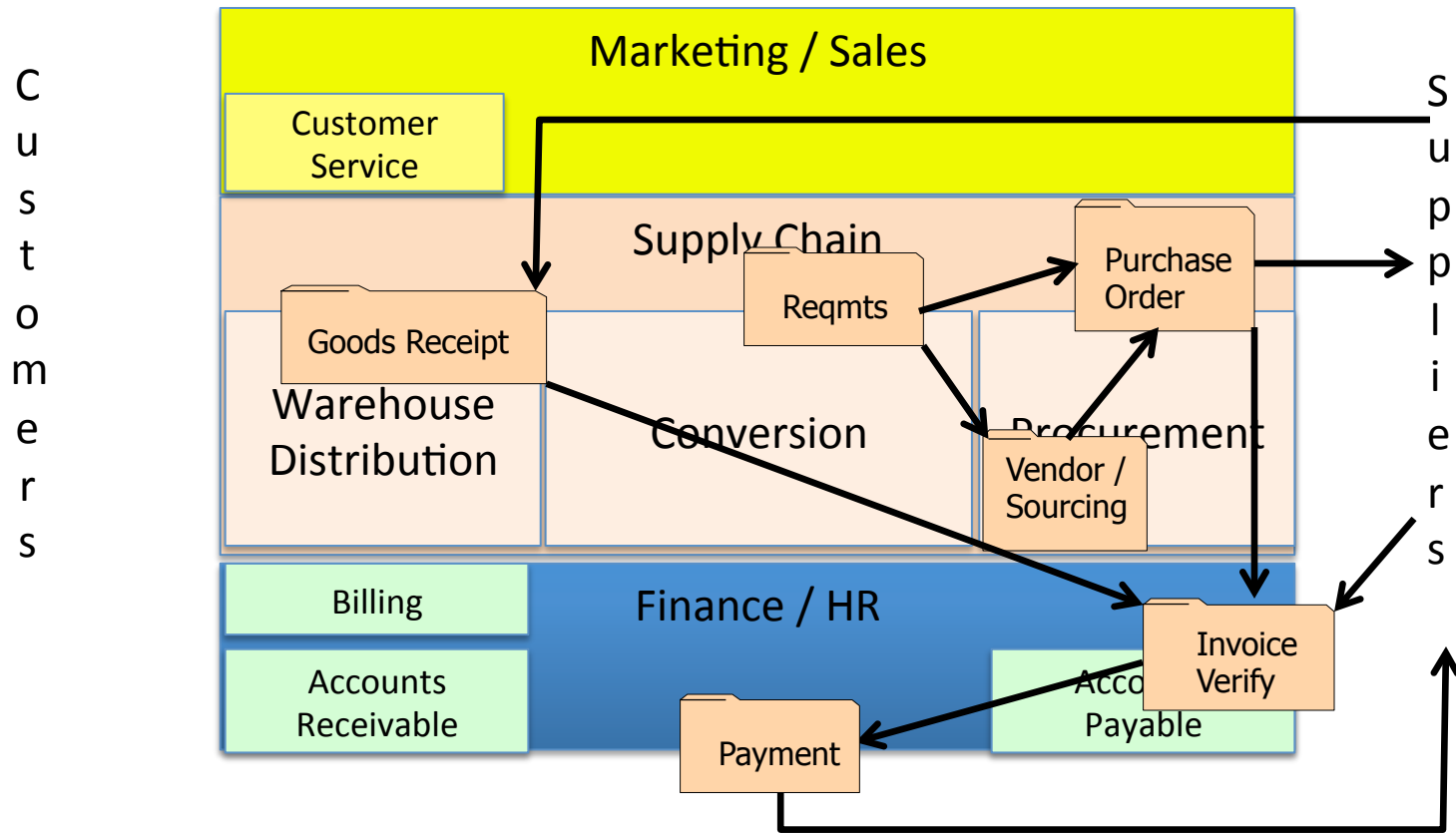


# Procurement Process

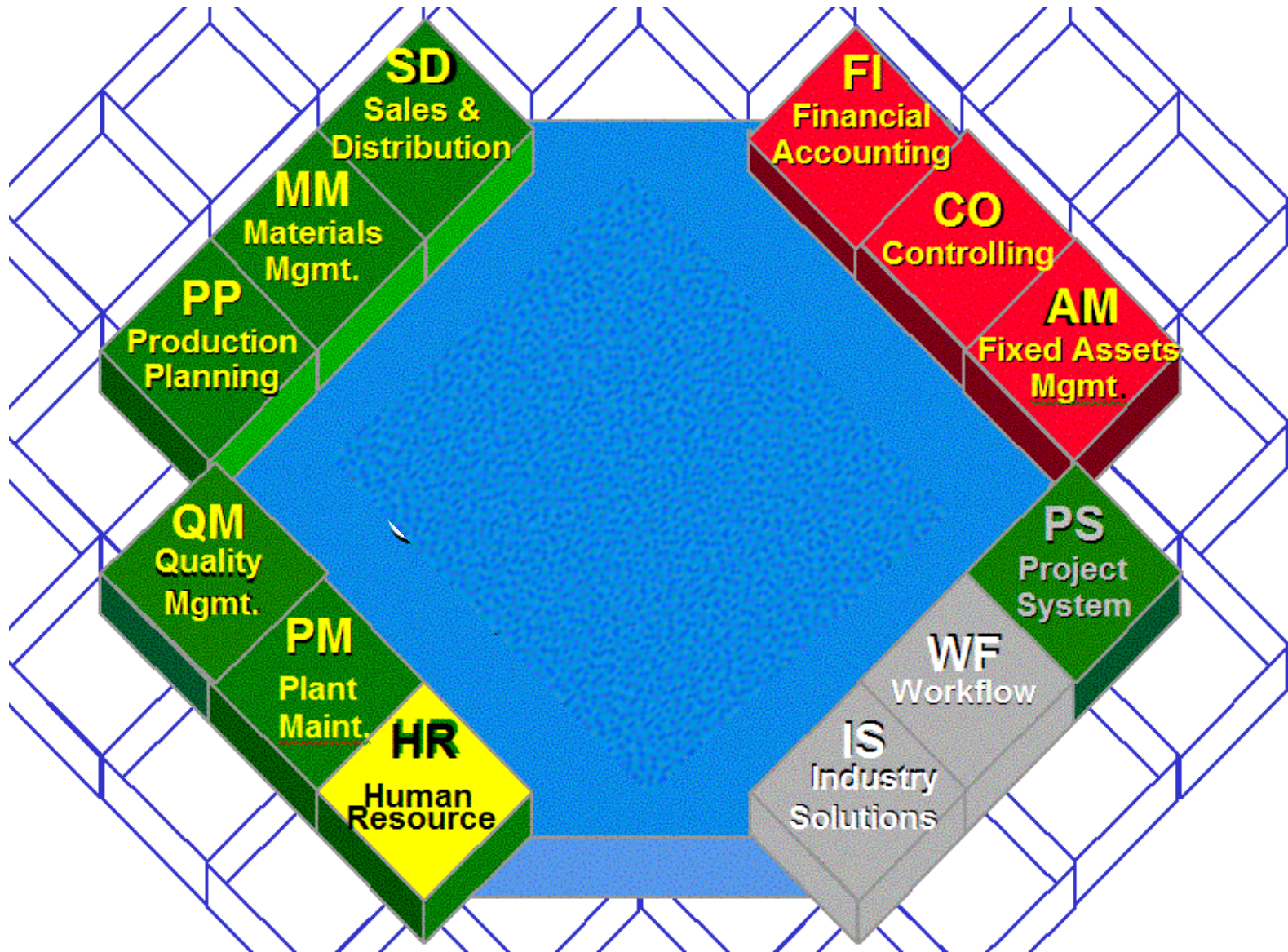




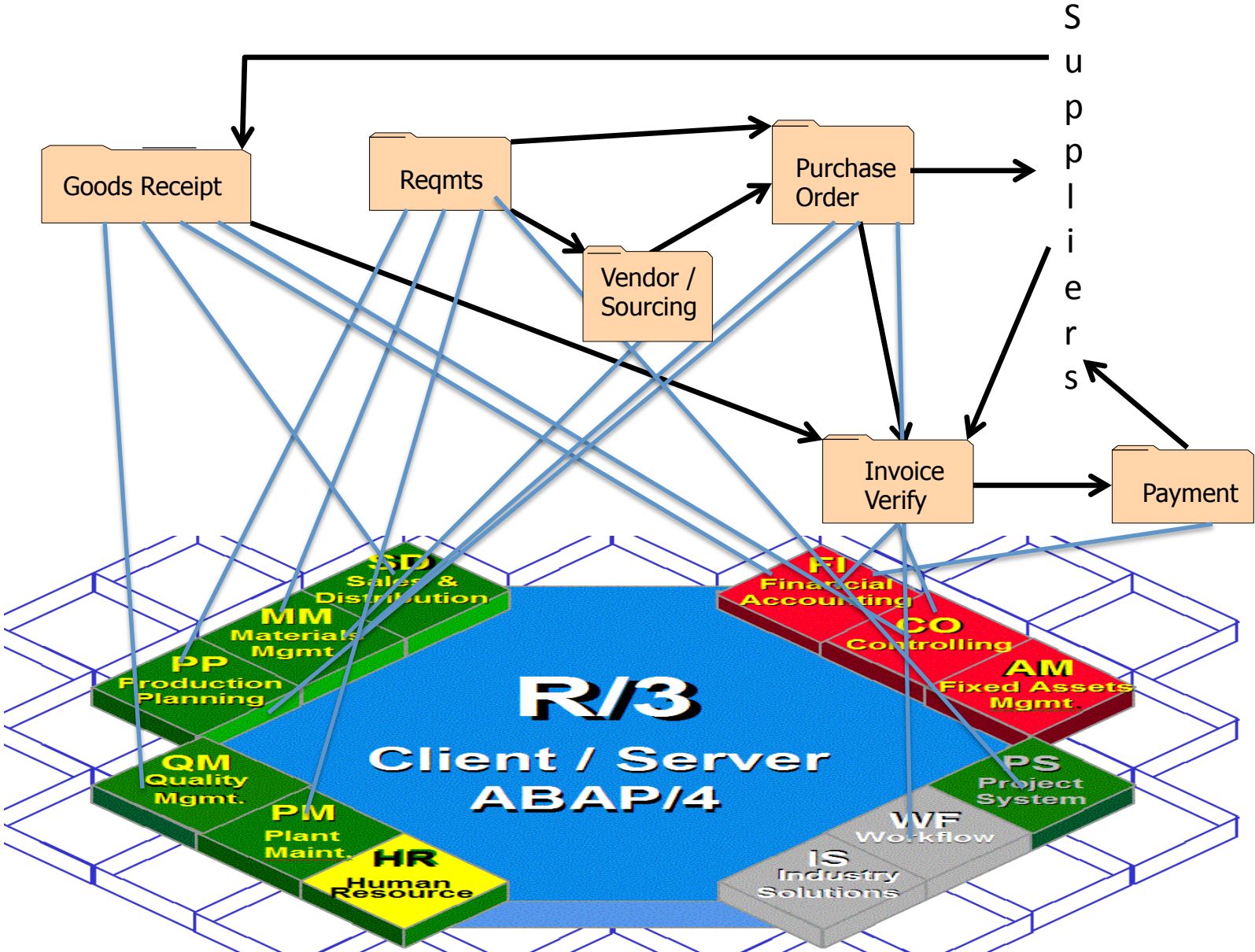
# Procurement at GBI



# SAP Core Modules



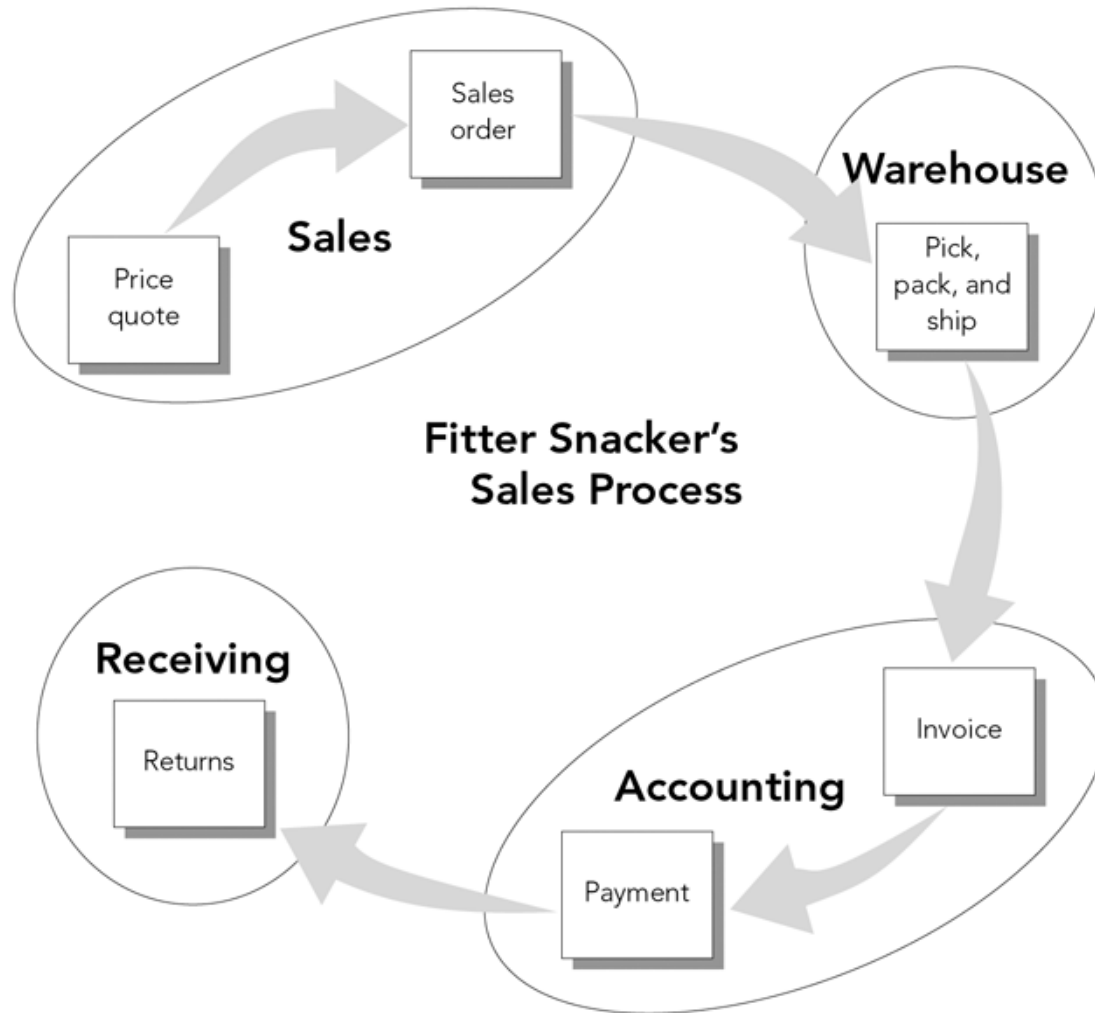
# Procurement Functions in SAP



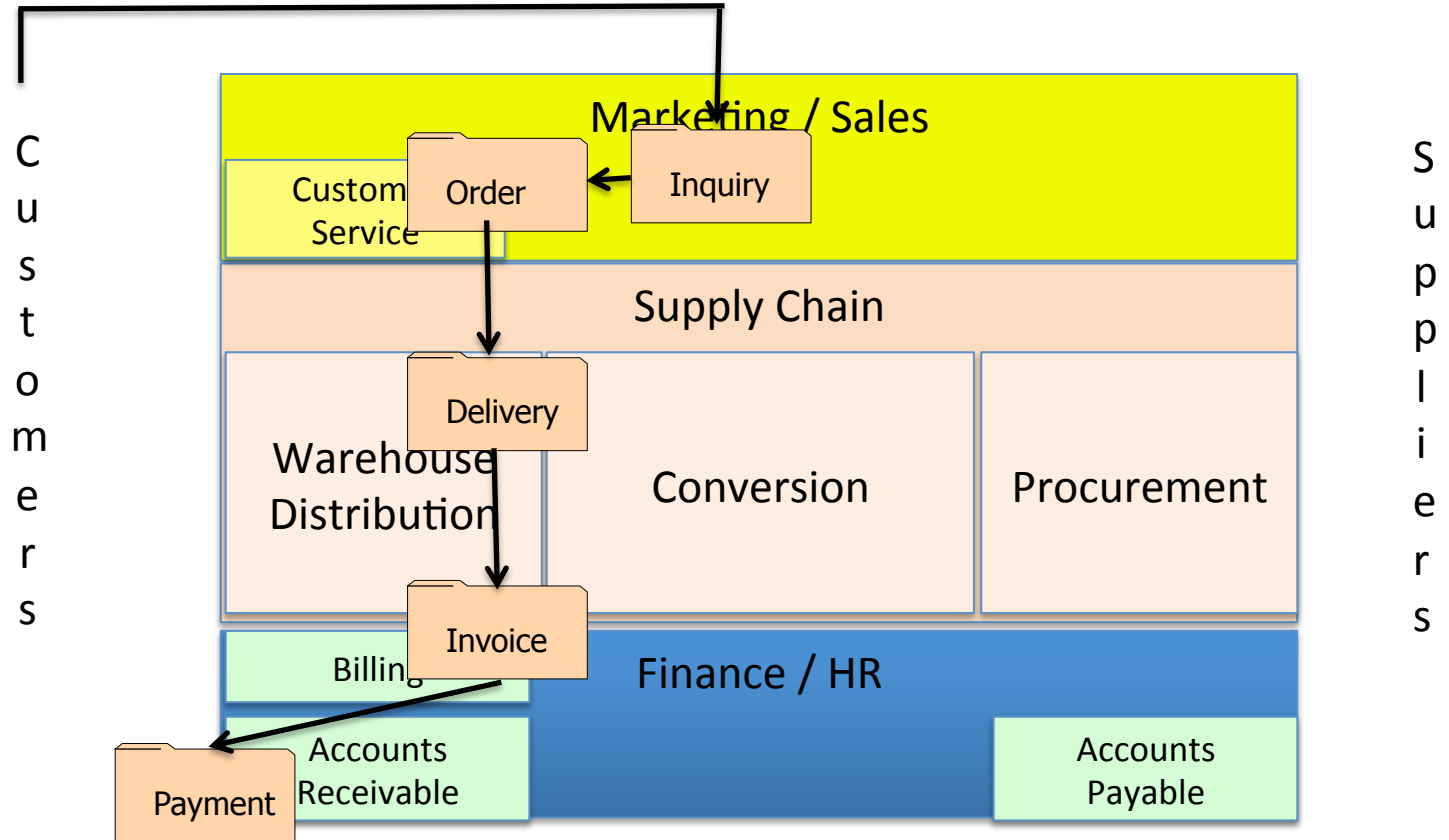
# Procurement Functions in SAP

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"/>					

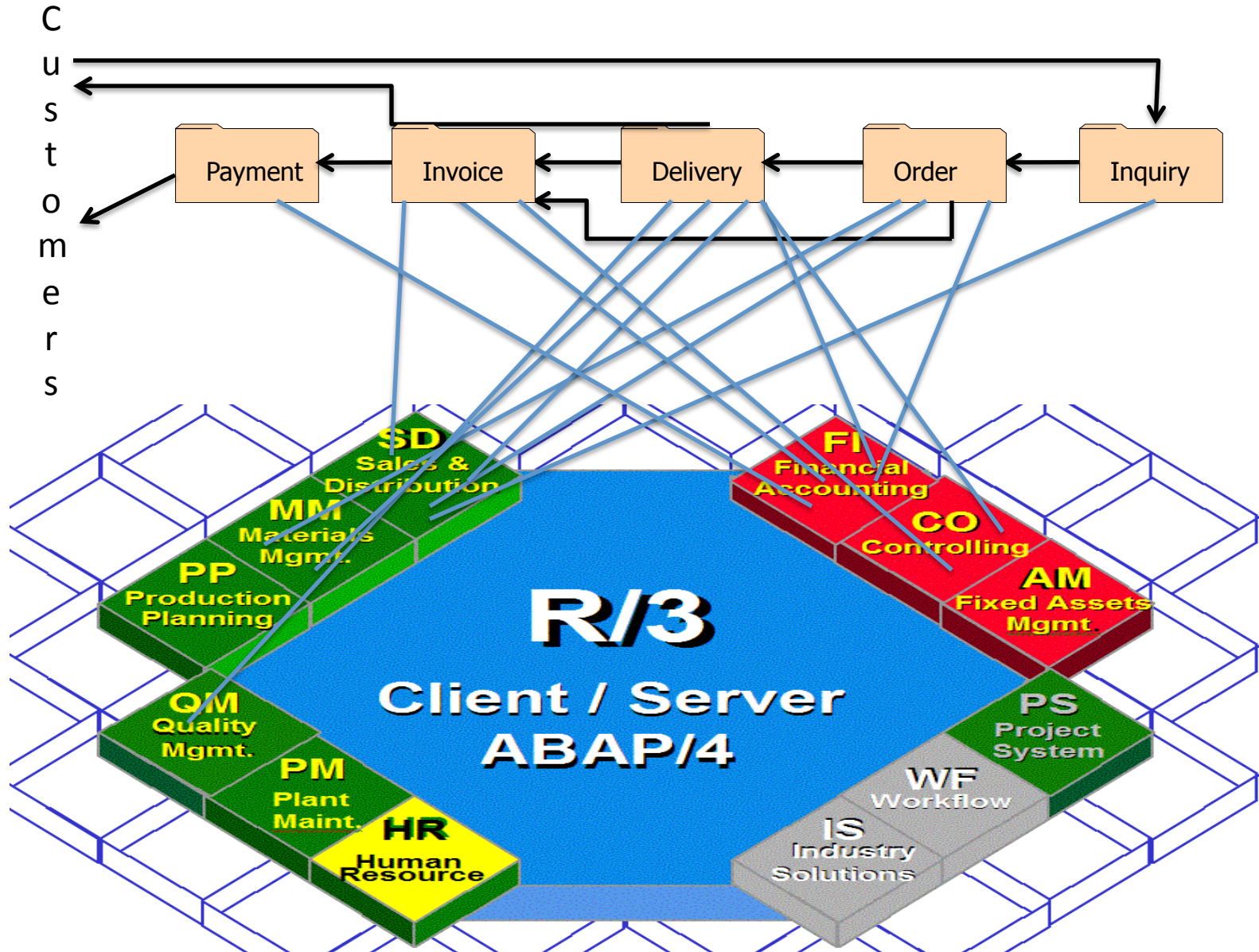
# Order to Cash Process



# Order to Cash at GBI



# Order to Cash Functions in SAP



# Order to Cash Functions in SAP

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



# Break Time





# 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

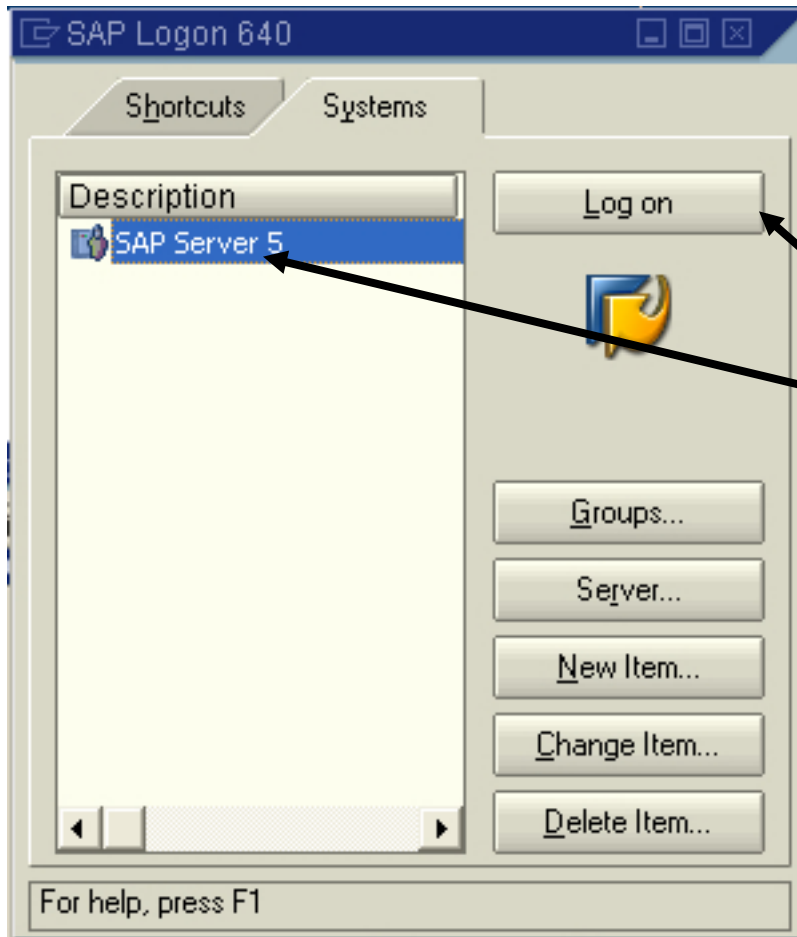


# Exercise 1: Purchase to Pay



- Agenda
  - Today: Logging On; Steps 1 - 6
  - Next Class (*February 1*): Steps 7 - 14
  - *Due February 4 @ 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)

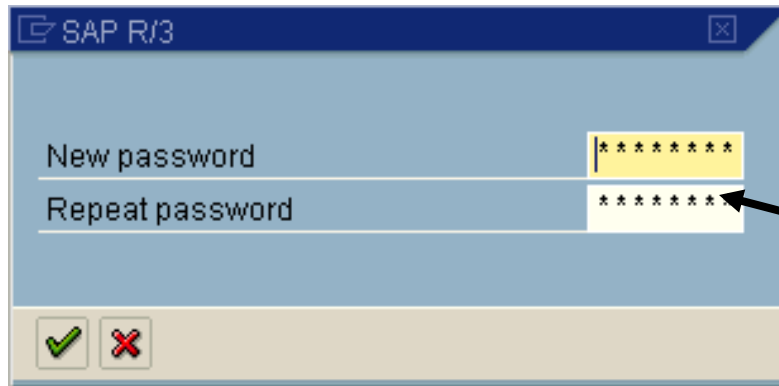
Enter Password (R/3 Account)

Don't worry about language—  
English will default in

# SAP Access Details

<b>SAPGUI - System ID</b>	<b>GB5</b>
<b>Host Name</b>	<b>GB5.UCC.UWM.EDU</b>
<b>Client Name</b>	<b>SAP ERP GBI AIS (MCC)</b>
<b>Client Number</b>	<b>648</b>
<b>SAPGUI - System Number</b>	<b>00</b>
<b>Student Userids</b>	<b>AIS-002 to AIS-046</b>
<b>Initial Student Passwords (case sensitive)</b>	<b>AIS5121T</b>

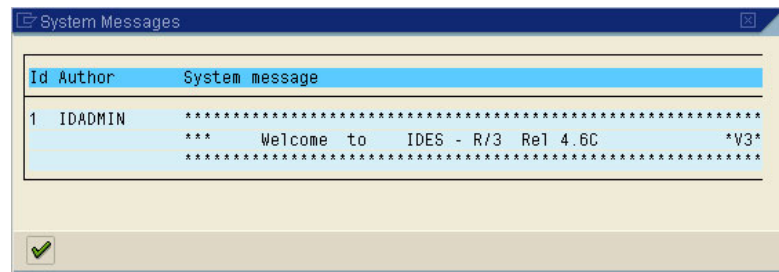
# Logging On ...2



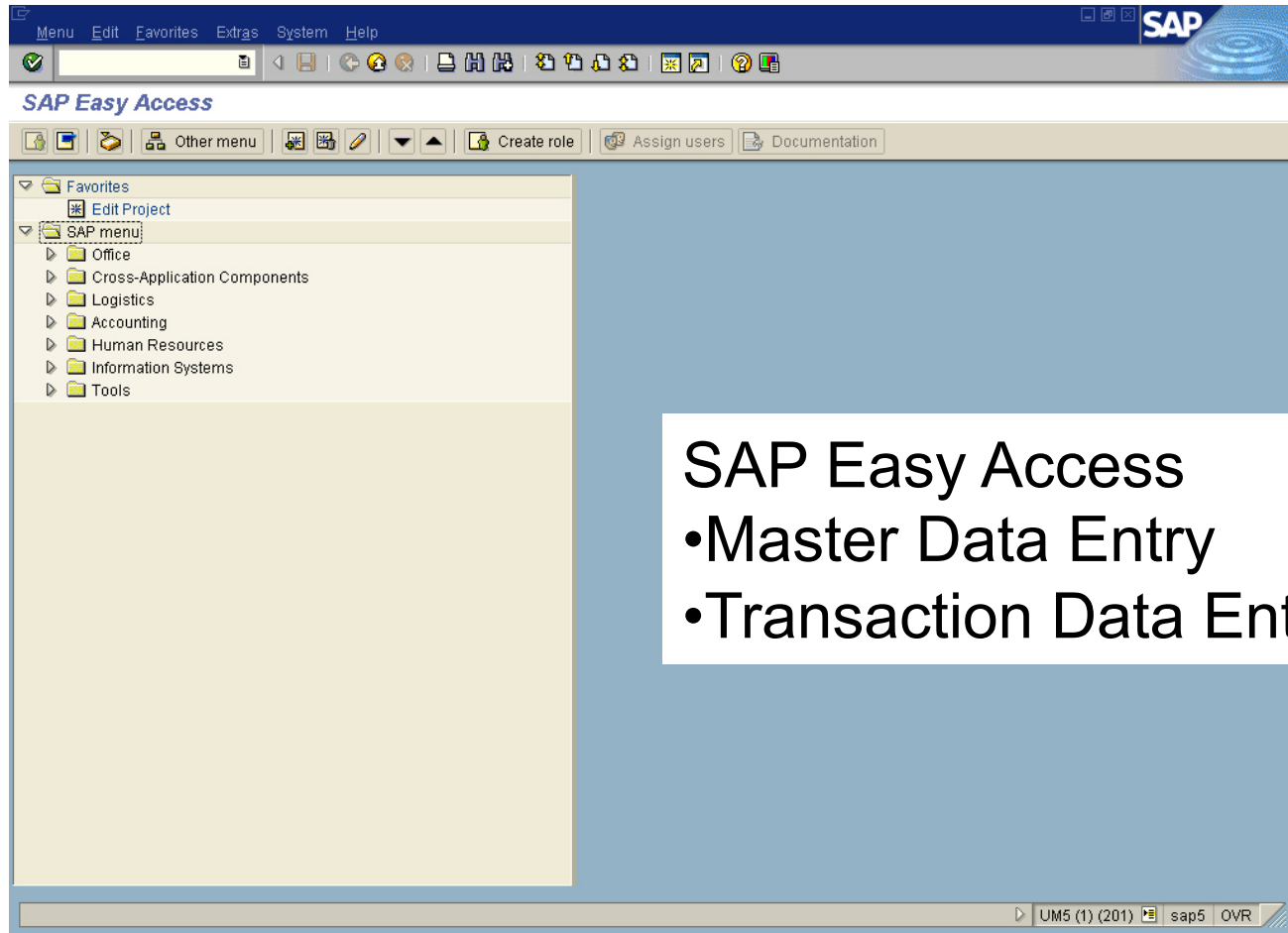
On the first time logging in to a new account, you will have to change the password—try To remember your new Password WITHOUT WRITING IT DOWN!

Then a message or two

Then . . . .



# Success !!

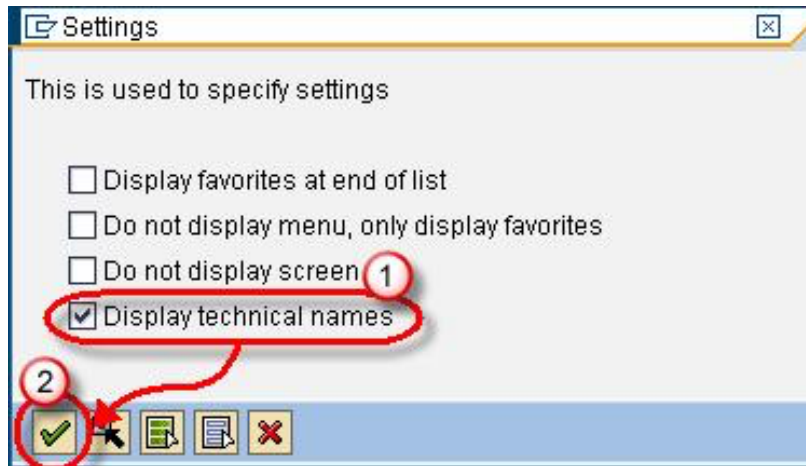
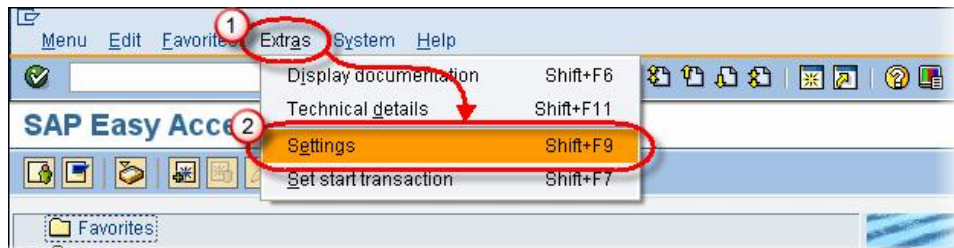


SAP Easy Access

- Master Data Entry
- Transaction Data Entry



# Enable 'Expert' Mode



Also: Extras -> Technical Details



# Exercise 1: Purchase to Pay



- Agenda
  - Today: Tasks 1 - 6
  - Next Class (*Feb 2*): Tasks 7 - 14
  - *Due Feb 5 11:59 PM*: Assignment Submission



# Exercise 1: Purchase to Pay



- Task 1.1 - Examine the Chart of Accounts
  - Menu: **Accounting** ▶ **Financial Accounting** ▶ **General Ledger** ▶ **Information System** ▶ **General Ledger Reports** ▶ **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*)
  - Check A/P Vendor sub-ledger:  
Transaction: **FBL1N** (*Vendor line item display*)

# 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	Printer icon	Filter icon	Double arrow icon
Company Code				
Posting Date				
Document Number				
Account				

Field list	Col. content	Double arrow icon
Account Type		
Document Type		
Sp.G/L trans.type		
Posting period		
Entry Date		
Line item		
Document Date		
Business Area		
Posting Key		
Special G/L ind.		
Sales-Related		
User Name		

Copy

# 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								Time 23:01:30		Date 11/14/15							
Kalamazoo				Ledger FS								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							



# Extra Slides

# 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 meetg 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?