

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 LEA

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

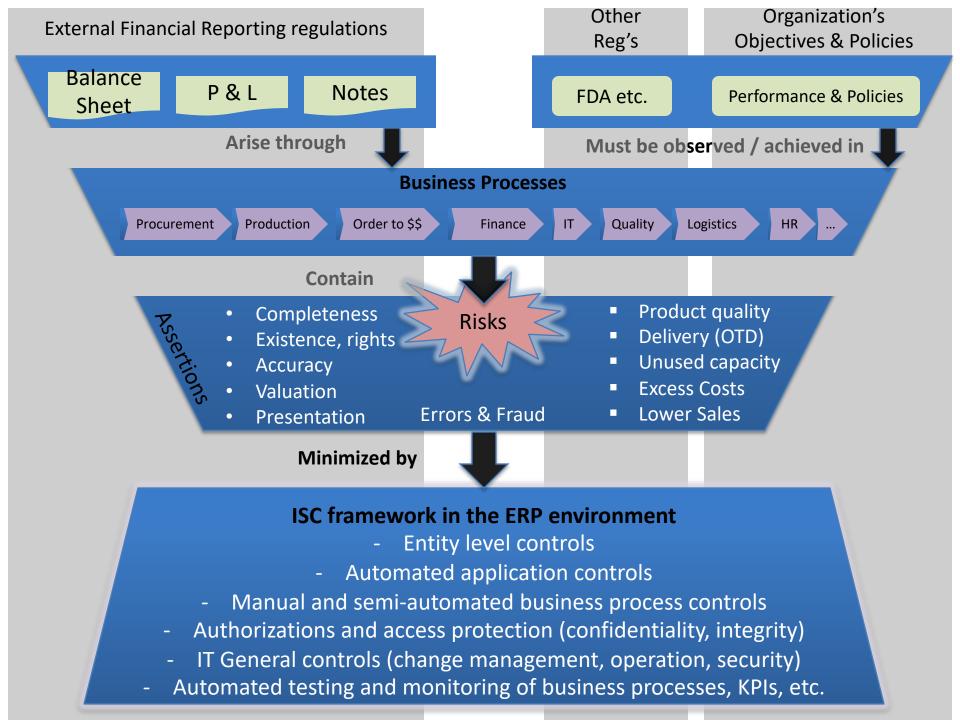
Results / Outcomes:

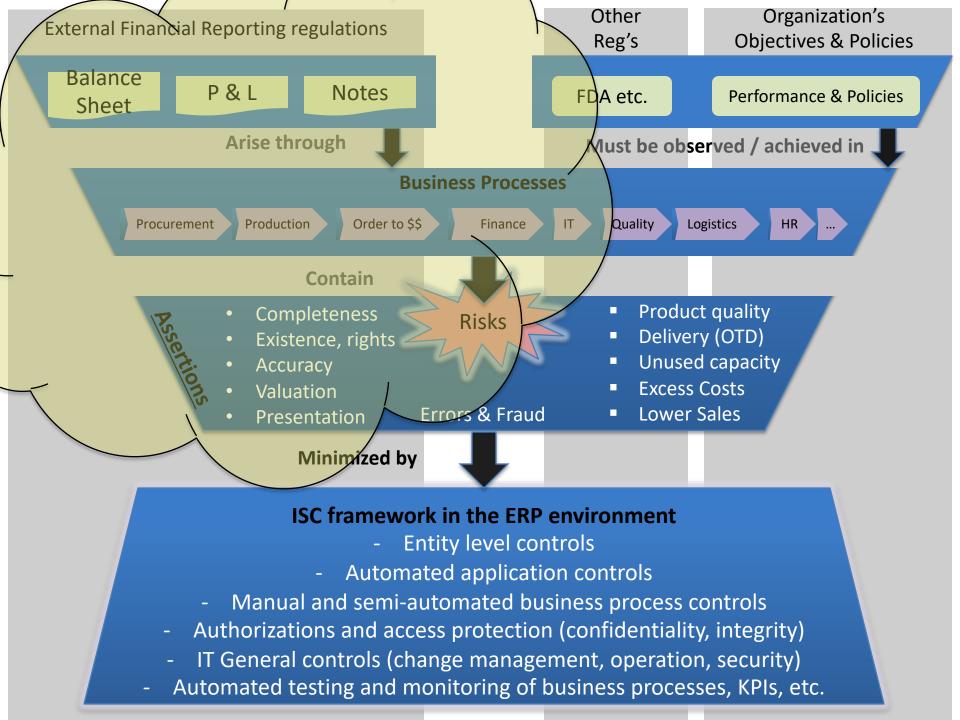


- ❖ Internal auditors secretly met and found \$3.8 B in fraud, assets inflated by ~ \$11 B
- ❖ Arthur Anderson withdrew audit opinion for 2001
- Company went bankrupt in 2002 (largest at time eclipsed by Lehman Bros)
 - Estimated loss of \$180B shareholder value
 - ❖ Layoff of 5,100 employees initially; 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/





Assertion

Definition

Auditor

'a confident and forceful statement of fact or belief'

Oxford Dictionaries





The Accounting Equation

Assets = Liabilities + Owner's Equity

- Always True
- At all times
- Without Exception



The Accounting Equation

Assets = Liabilities + 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

Assets – Liabilities = Owner's Equity

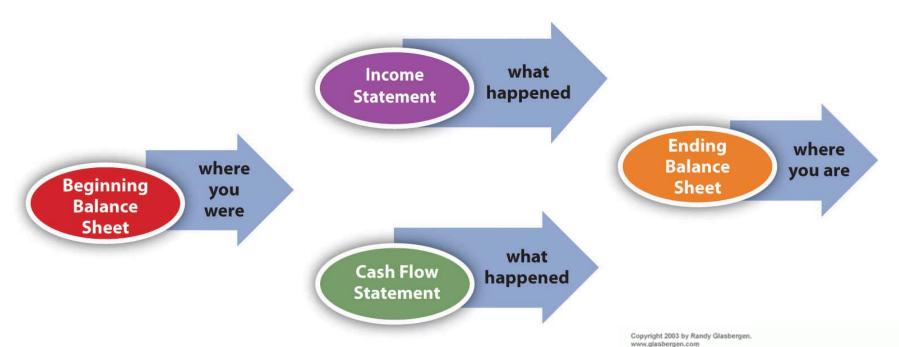


My Asset is Your Liability

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



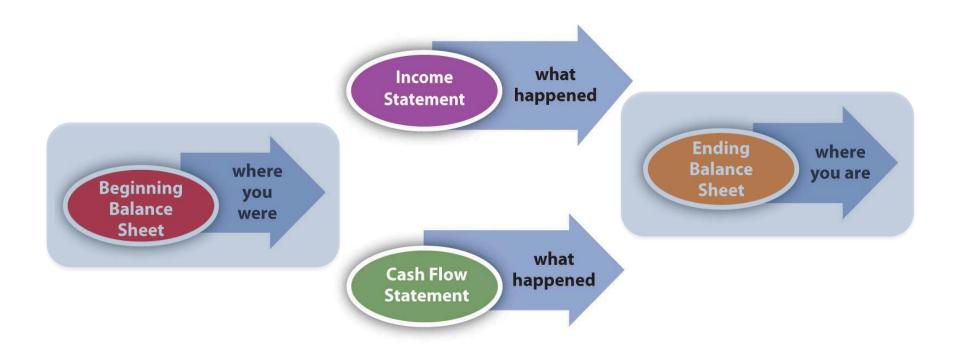
Example:

http://www.temple.edu/controller/financial_stateme l2014ConsolidatedStatementspkg-Final.pdf



"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





Assets: All Property Owned by Company

- •
- •
- •
- •

Liabilities: All debts Company has outstanding

- •
- •
- •
- •



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.



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



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

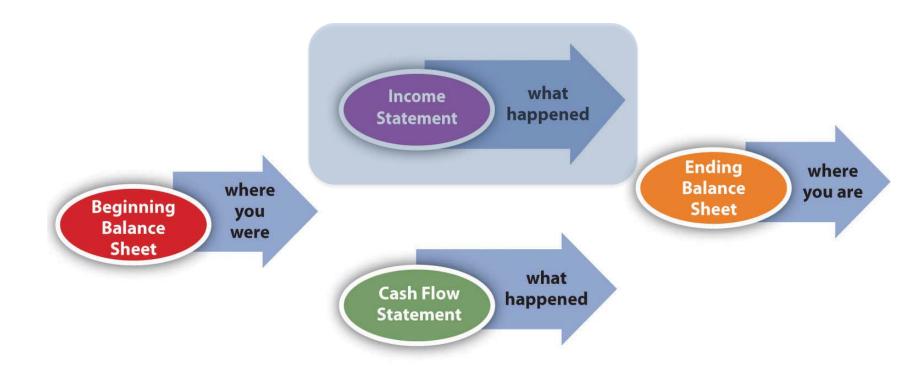


Temple University Of The Commonwealth System of Higher Education Consolidated Balance Sheets

(in thousands)

	June 30, 2015	June 30, 2014
Current assets:		
	¢100 000	¢102 512
Cash and cash equivalents Investments and self-insurance trust funds	\$189,008 894,418	\$182,512 850,003
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	1,546,402	1,511,672
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	2,756,130	2,766,339
Total assets	\$4,302,532	\$4,278,011
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	470,495	468,487
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	1,647,386	1,656,493
Total liabilities	2,117,881	2,124,980
Net assets:		
Unrestricted	1,651,970	1,642,977
Temporarily restricted	1,051,970	137,569
Permanently restricted	407,402	372,485
Total net assets	2,184,651	2,153,031
A Orma Mit #33013	2,104,031	2,133,031
Total liabilities and net assets	\$4,302,532	\$4,278,011

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





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

Cash Decount										
1904				2	h_				6	h
Jan 1 Co	ash on hand,		2	3	4	17	П	\Box		Ī
g _a	aid Jan. rent to E	S. L. Issacs		П			П	\Box	1	1
3 Ca	rsh sales			П	2	60				Ī
14 R	secd. from E. D.	Williams, in full,	1	1	5	_				
23	" B. L. To	hns, on act.			8	_				
28 Pa	rid to S. J. Keen,	on account,							8	
-	" wages for Jan	wary,		\prod				1	2	
31 B		Page 18,					\prod	1	3	
	U	0	3	5	g	77		3	5	Š

- Equal Debits and Credits made in accounts for <u>each</u> transaction
- Enforces Accounting Equation

Assets = Liabilities + Owner's Equity

Debits = Credits



Debits and Credits

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

```
Assets = Liabilities + Owner's Equity
-40,000 = -- + --
+40,000
```

<u>Example 2</u>: Company purchased equipment with a loan

```
Assets = Liabilities + Owner's Equity
+40,000 = +40,000 + --
```



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
---------	----------------

Income Statement Accounts

	Asset	Re	evenue
Debit	Credit	Debit	Credit
Increase (+)	Decrease (-)	Decrease (-)	Increase (+)
		_	
L	iability	E	cpense .
Li Debit	Credit	Debit	Credit

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

credit Displi

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



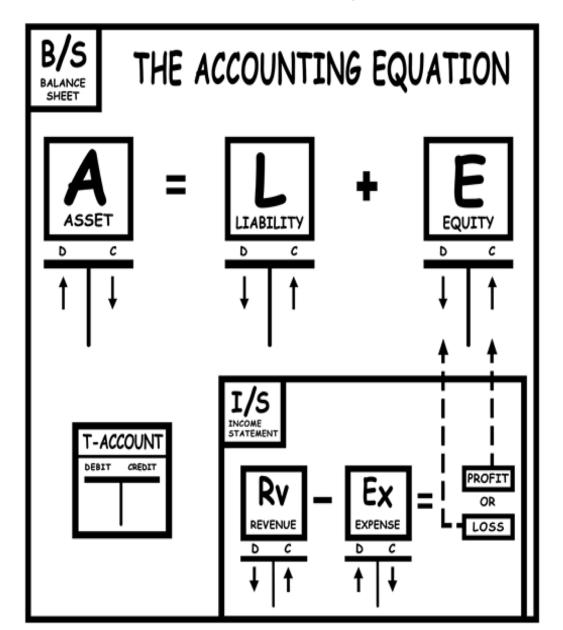
General Ledger (G/L)

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

General Jo	ournal			#1001
Date	Details	A/C#	Debit (Dr)	Credit (Cr)
1 May 20XX	Cash	301	10,000 -	
	Loan - ABC Bank	401		10,000
	Loan funds	receiv	ed	
10 May 20XX	Cash	301	1000	
	Sales	101		1000
	Sale of in	ventor	у	
15 May 20XX	Electricity expense	201	500	
	Cash	301		500
	Payment of e	lectrict	y bill	



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

Auditor

'a confident and forceful statement of fact or belief'

Balance Sheet

Oxford Dictionaries



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

• <u>Timing (cutoff)</u>:

- Transactions recorded in proper accounting period
- Transactions recorded with correct dates

Completeness:

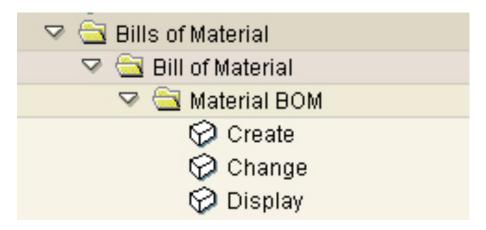
- Existing transactions are recorded
- All transaction that should be included are in fact included



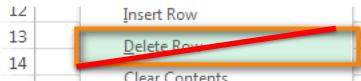


SAP Design for 'Completeness'

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





Management Assertion Dimensions

'a confident statement of fact' if:

 Occurrence 	Income Statement
--------------------------------	------------------

- Completeness all
- Accuracy all
- Timing all
- Classification
- Summarization / Presentation all
- Existence Balance Sheet
- Rights (Ownership)
 Balance Sheet
- Valuation Balance Sheet





Management Assertion Dimensions

Taxonomy for class

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







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 phope networks: xxx (Huge Decrease)

Removed From Income Statement

Computer expenses: xxx (Huge Decrease)

NET INCOME xxx (Huge Increase)

Removed From Income Statement

= HAPPY INVESTORS





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

Computer Assets

500 million

Cash

500 million

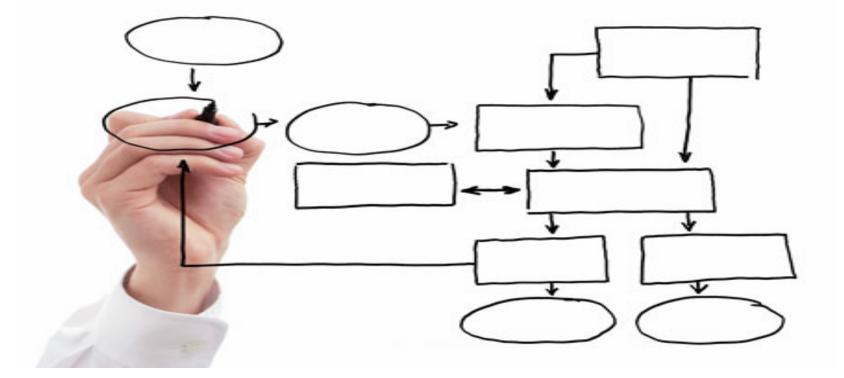
- Huge losses turned into enormous profits.
 - \$1.38 billion in net income in 2001
- Inflated the company's value in its assets
- ? What Assertion Attributes were Violated / Missing



Assertions

Controls

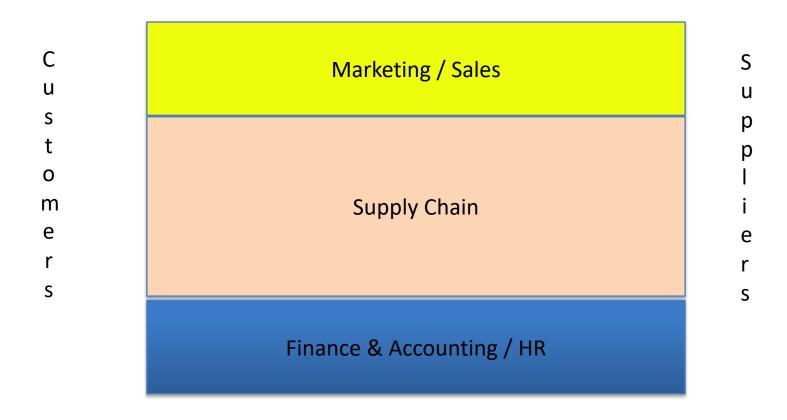
- > The existence of controls imply the existence of assertions.
- Assertions require the existence of controls.



Integration of:

- Business Organization
- Business Process
- ERP / SAP Functions

Business Functions / Organization



Global Bike Organization



m

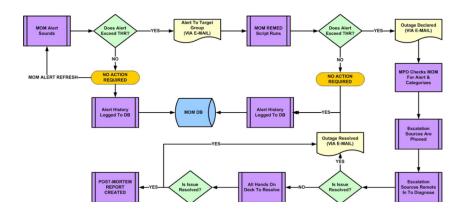
Marketing / Sales				
Customer Service				
Supply Chain				
Warehouse Distribution	Conversion	Procurement		
Billing	Finance / HR			
Accounts Receivable		Accounts Payable		

Business Process

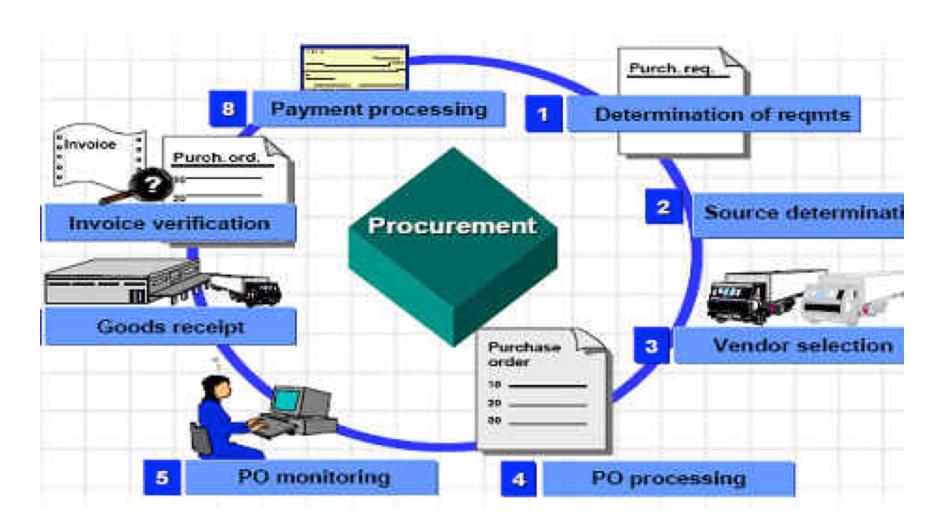
Definition

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

Business Dictionary



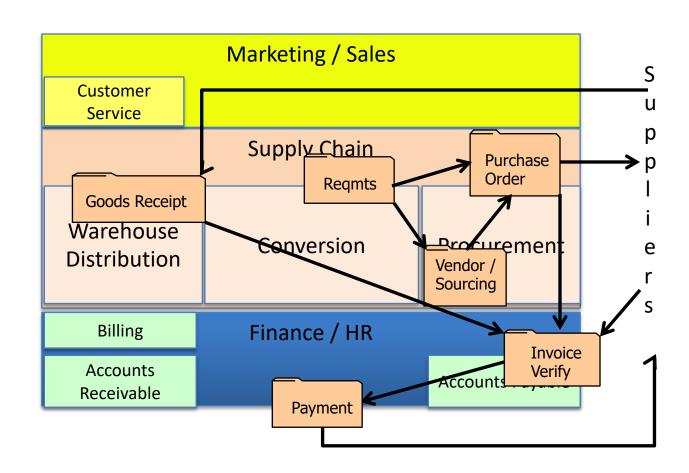
Procurement Process



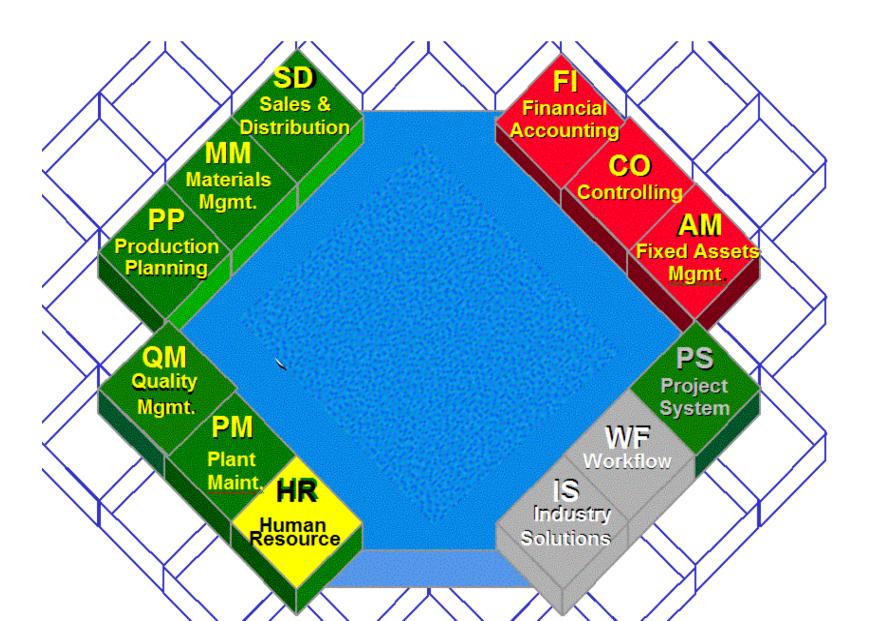
Procurement at GBI



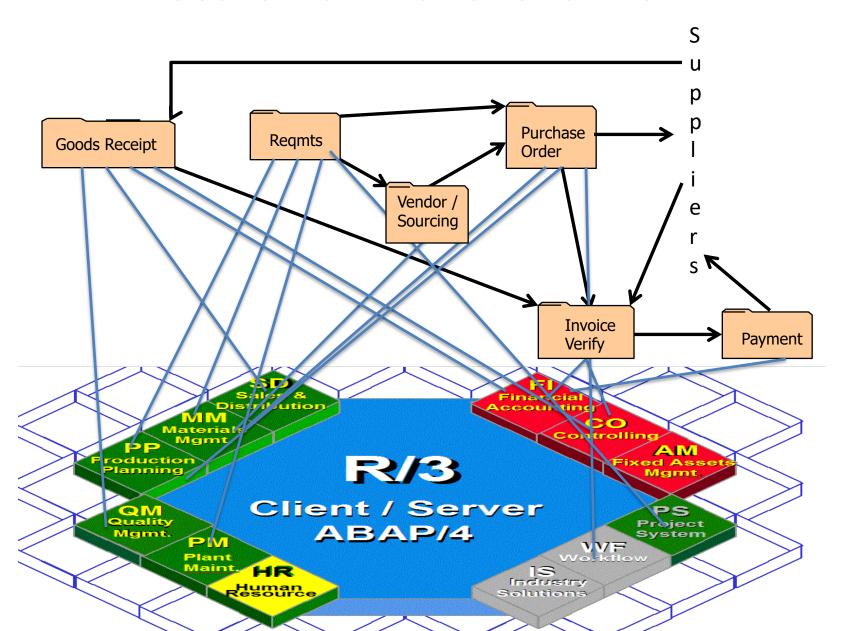
C u s t o m e r s



SAP Core Modules



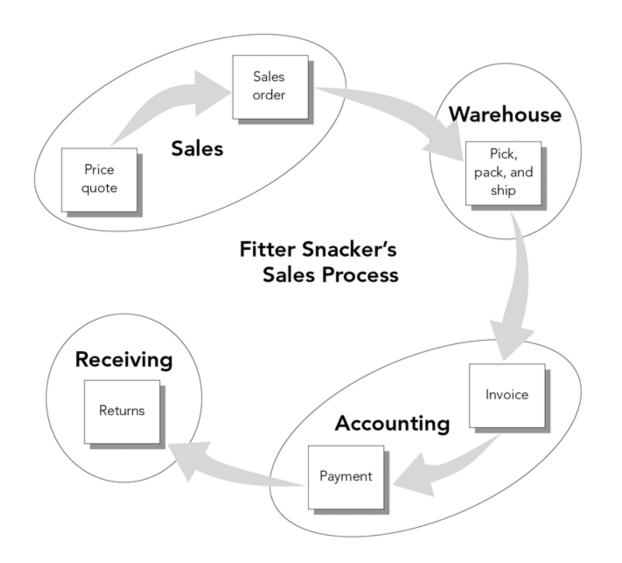
Procurement Functions in SAP



Procurement Functions in SAP

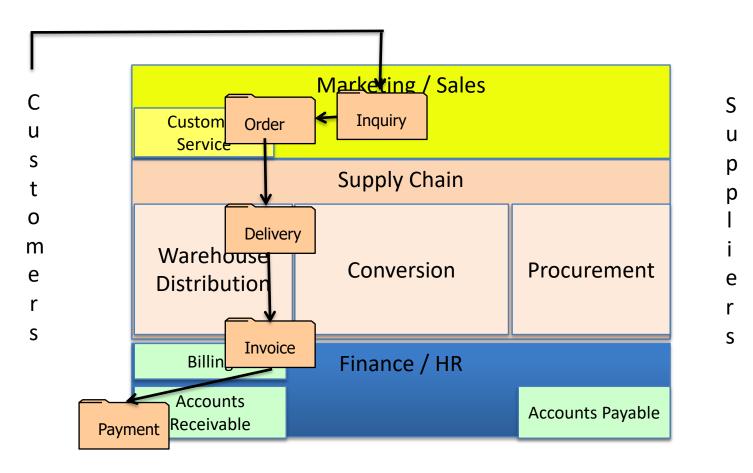
Task	SD	MM	QM	FI	СО	PP	PM	PS	WF
Requirements						Ø	\square	\square	
Vendor / Sourcing									
Purchase Order				V		☑			
Goods Receipt	V			V					
Invoice Verify				$\overline{\square}$	\square				\square
Payment									

Order to Cash Process

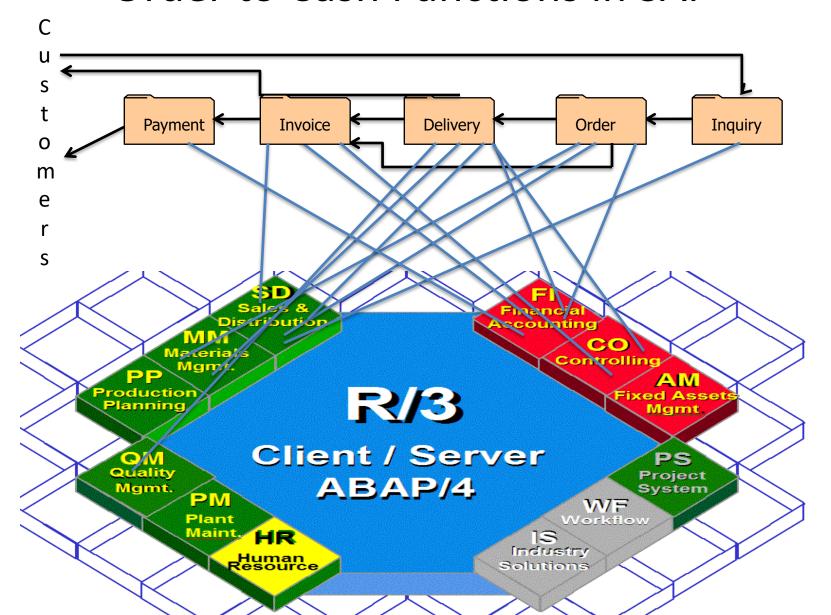


Order to Cash at GBI





Order to Cash Functions in SAP



Order to Cash Functions in SAP

Task	SD	MM	QM	FI	СО
Inquiry					
Order					
Delivery		\square			
Invoice	\square			\square	
Payment					



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)





Breakout Activity

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

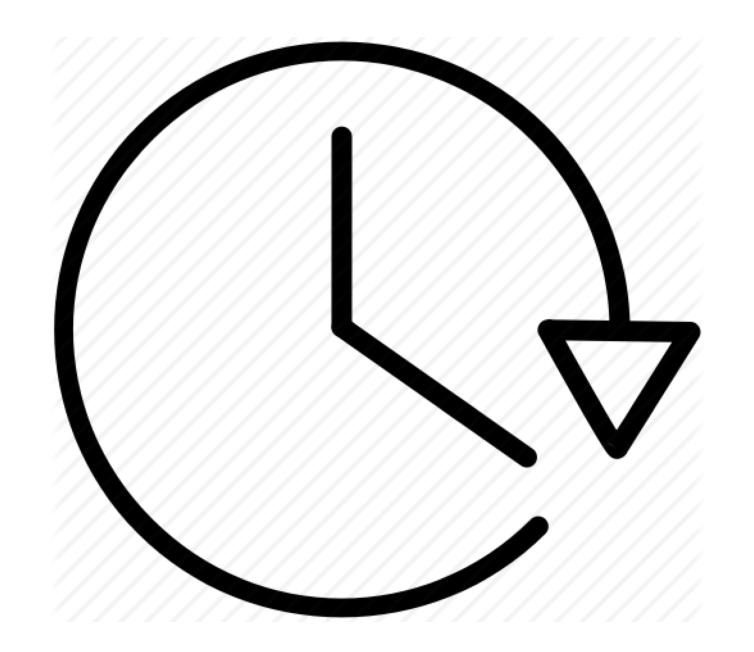
Assume the process is well implemented using an ERP system.

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

What could go wrong??



- 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
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- 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
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- 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

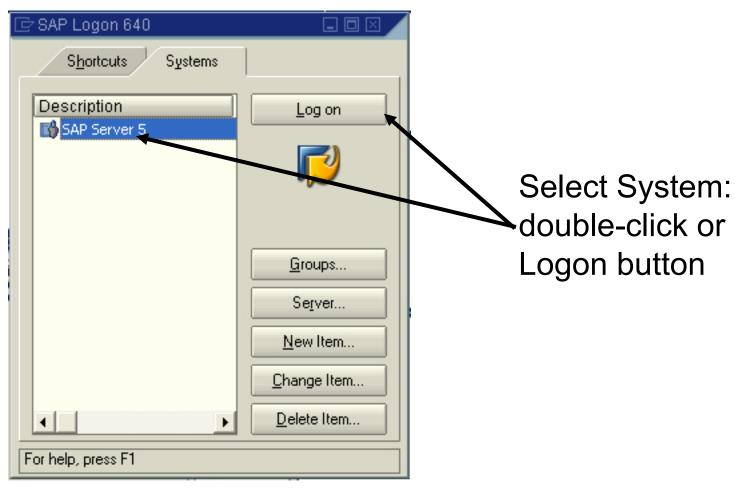


Agenda



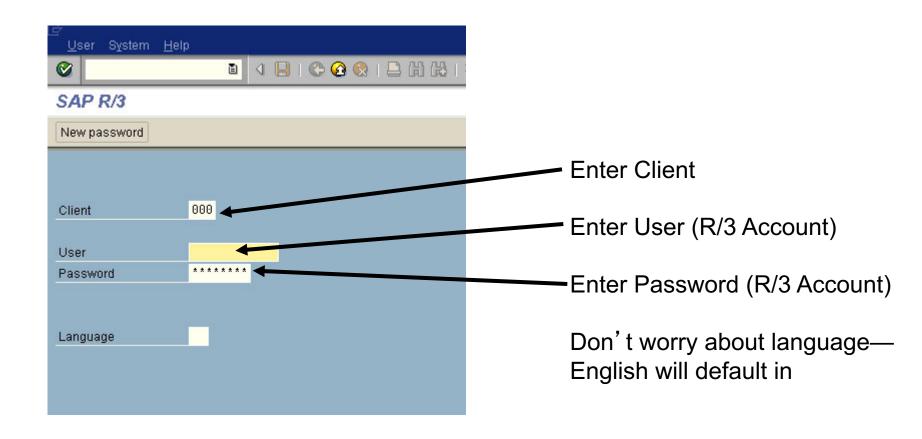
- Today: Logging On; Steps 1 6
- Next Class (September 12): Steps 7 14
- Due September 18 @ 11:59 AM: Assignment Submission

Configured SAP Gui



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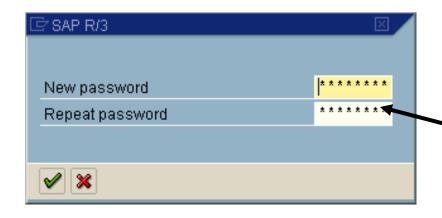
Logging On

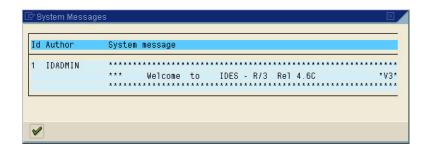


SAP Access Details

SAPGUI - System ID	GB5
Host Name	GB5.UCC.UWM.EDU
Client Name	SAP ERP GBI AIS & SCM (MCC)
Client Number	652
SAPGUI - System Number	00
Student Userids	(See Assignments in Roster)
Student Passwords (case sensitive)	TempleUn

Logging On ...2



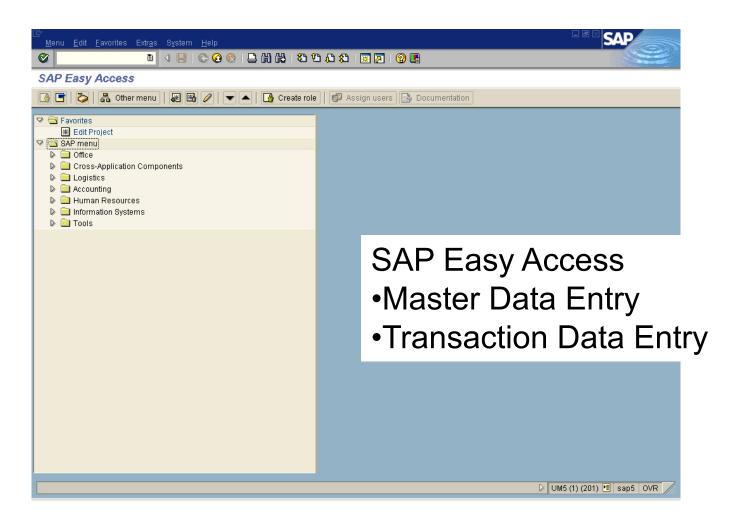


On the first time logging in to a new account, you will have to change the password—try To remember your new Password WITHOUT WRITING IT DOWN!

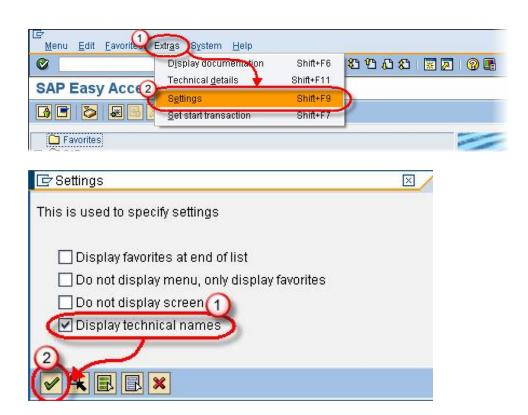
Then a message or two

Then

Success !!



Enable 'Expert' Mode



Also: Extras -> Technical Details





- 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







- Menu: Tools ➤ Customizing ➤ IMG ➤ Execute Project
- Transaction: **SPRO**

Do not make any changes to the system while you are in the IMG.

- Expand <u>SAP Reference IMG</u>: *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







- Menu: Logistics ➤ Materials Management ➤ Purchasing
 Master Data ➤ Vendor ➤ Central ➤ Create
- Transaction: **XK01**
- Expand <u>SAP Reference IMG</u>: 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





- 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)

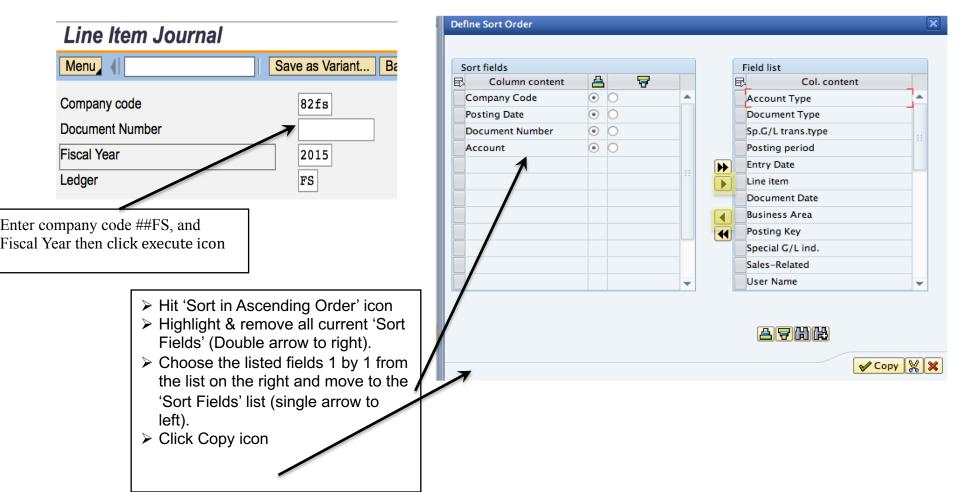
Recommend: Use /MIS5121 Layout Variant

Check A/P Vendor sub-ledger:
 Transaction: FBL1N (Vendor line item display)

Extra Slides

Activity to Date in SAP

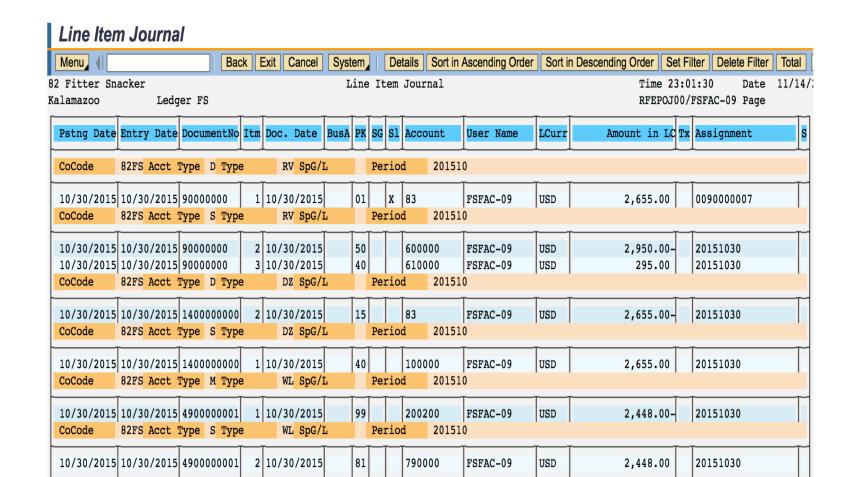
Information System ▷General Report Selection ▷Financial Accounting ▷General Ledger Reports ▷Document ▷General ▷Line Item Journal ▷Line Item Journal Transaction: S_ALR_87012291



Activity to Date in SAP

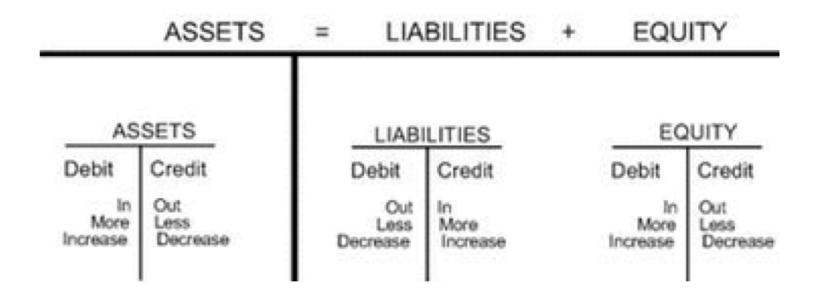
Activity from previously executed process steps (e.g. Sales Process, etc.) are listed.

Note: Offsetting Debits and Credits for each document



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

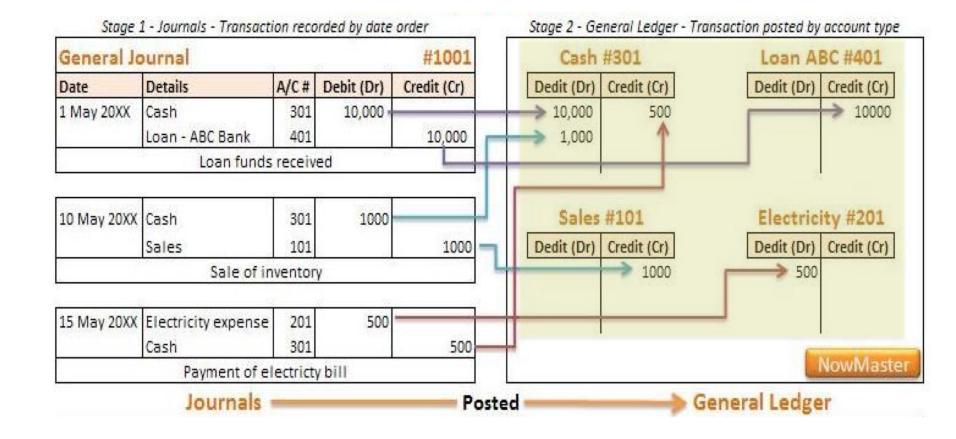


Account Name

Debit Credit

T-Accounts

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



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?