

Purchase-to-Pay Example Using SAP ERP

The objective of this assignment is for you to become familiar with the steps and the documents involved in a typical purchasing transaction and also investigate how the SAP system is set up and operates for this type of transaction.

Product

SAP ERP
GBI
Release 6.04

Level

Undergraduate
Graduate

Focus

Purchase-to-Pay Cycle and
Accounting Entries
Test of Transactions
Application Controls

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Version

1.0

MOTIVATION

Primary learning objectives:

- Experience the steps in a typical purchasing transaction
- See how an ERP system handles a typical purchasing transaction
- Work through the procedures involved in a test of transactions
- Investigate the various types of application controls in an ERP system

Secondary learning objectives:

- See the integration between materials management (MM) and financial accounting (FI) modules of SAP
- Learn about how a suspense account (the GR/IR account) is used
- Look at some of the basic settings needed in the FI module in order to have the system function properly

PREREQUISITES

Before you use this case study, you should be familiar with navigation in the SAP system.

You should also be familiar with internal controls and have a basic understanding of business processes and transaction cycles.

NOTES

This case study uses the Global Bike Inc. (GBI) data set, which has exclusively been created for SAP UA global curricula.

Assignment Overview

For this assignment, we start by examining the master data in the system. As you should already know, the chart of accounts is of central importance to any accounting information system. Thus we look at the chart of accounts and other settings used to configure the financial accounting system. We then create master data for a new material and a new vendor and then link these together using an information record. After that we run through a transaction in which we purchase the material we just created from the vendor we also just created. As the various steps of the purchase are recorded in SAP, we examine the accounts that are affected in both the financial (FI) and materials management (MM) modules. In auditing terminology this is called doing a test of transactions. We will be looking at typical business-to-business transactions and concentrating on the internal controls within the SAP system and the way the system is configured to process these transactions.

Keep in mind that this business process is normally done by more than one person in order to properly segregate duties and maintain authorization controls. However, in this exercise you will do all of the steps from your individual SAP logon. As we stressed in this course, the segregation of duties is a very strong control. Hence, the different people involved in the business process would have unique authorizations set up in the system and few, if any, people would be allowed to execute all of the roles that you will assume in this assignment.

Since this course deals with accounting information systems, we want you to pay particular attention to the controls that are designed into the SAP system. These controls are a very important part of an integrated information system such as an ERP system. The controls embedded within SAP are a vital part of the system and essential to the system functioning properly. Throughout the assignment you are asked to identify the internal controls that you observe in SAP. For some of these controls you are asked what type of application control it is. You are to select from the following list of possible application controls. If you don't remember what these controls are and what they mean, you should refer to your course materials regarding application controls and review that material. Additional information regarding these controls and more can be found at the ISACA (Information System Audit and Control Association), website www.isaca.org.

- Field check
- Sign check
- Limit check
- Range check
- Size (or capacity) check
- Completeness check
- Validity check
- Reasonableness test

For each of the following steps you will also be noting the nature of the accounting entries involved in each transaction step.

You will perform the following tasks:

1. Examine the chart of accounts
2. Examine the account settings for financial accounting use
3. Create a material master
4. Create a vendor master
5. Create a purchasing information record to link the vendor and material
6. Check the inventory and accounting records
7. Create a purchase order for the material
8. Check the inventory and accounting records
9. Receive the material
10. Check the inventory and accounting records
11. Receive the invoice from the vendor
12. Check the inventory and accounting records
13. Make payment to the vendor
14. Check the inventory and accounting records
15. Write down the journal entries that the system made

For all of the following work, you will use your own company code. This company code is based on the SAP number assigned to you by your instructor. In addition, the logon and initial password to a specific SAP instance and client will be given to you by your instructor.

Whenever you see the value **XX in the assignment you will substitute your assigned SAP number.** Your assigned SAP number is the last two digits of your Global Bike Inc (GBI) User ID. For example if your assigned User ID is AIS-044, your value for **XX** is 44. Be sure to use only your assigned SAP number.

For this assignment the company code will be **USXX**. Whenever you are requested to enter a company, be sure to enter only your company code.

Note that as you go through the questions, some of the answers to these questions may be related to your accounting theory rather than a specific SAP attribute.

Company Background

Global Bike Inc., (GBI) is a world class bicycle company serving the professional and “prosumer” cyclists for touring and off-road racing. GBI’s riders demand the highest level of quality, toughness and performance from their bikes and accessories.

Product development is the most critical element of GBI’s past and future growth. GBI has invested heavily in this area, focusing on innovation, quality, safety and speed to market. GBI has an extensive innovation network to source ideas from riders, dealers and professionals to continuously improve the performance, reliability and quality of its bicycles.

In the touring bike category, GBI’s handcrafted bicycles have won numerous design awards and are sold in over 10 countries. GBI’s signature composite frames are world-renowned for their strength, light weight and easy maintenance. GBI bikes are consistently ridden in the Tour de France and other major international road races. GBI produces two models of their signature road bikes, a deluxe and professional model. The key difference between the two models is the type of wheels used, aluminum for the basic model and carbon composite for the professional model.

GBI’s off-road bikes are also recognized as incredibly tough and easy to maintain. GBI trail bikes are the preferred choice of world champion off-road racers and have become synonymous with performance and strength in one of the most grueling sports in the world. GBI produces two types of off-road bike, a men’s and women’s model. The basic difference between the two models is the smaller size and ergonomic shaping of the women’s frame.


GBI also sells an accessories product line comprised of helmets, t-shirts and other riding accessories. GBI partners with only the highest quality suppliers of accessories which will help enhance riders’ performance and comfort while riding GBI bikes.


Task 1 – Examine the Chart of Accounts and General Ledger Accounts

Understanding the chart of accounts is a very important part of the overall understanding of the accounting process within any organization. So first we will look at the chart of accounts for the company and also see how it is configured in SAP.

Examine the Chart of Accounts for GBI

Menu Path: Accounting ► Financial Accounting ► General Ledger ► Information System ► General Ledger Reports (New) ► Master Data ► Chart of Accounts (**Transaction Code S_ALR_87012326**)

Under general selections, in the field for chart of accounts enter GL00 and click on execute. 

The chart of accounts for GBI will be displayed. Place your cursor on the the line for account 200600 “Inventory – Operating Supplies” and then click on the detail icon  to see information regarding the account 200600 in our chart of accounts. Note the information on the Type/Description tab.

1.1 General ledger accounts are considered master data and different controls within the master data allow the system to group accounts that are similar. Under the “control in chart of accounts” area on the Type/Description tab, what type of account is account 200600 “Inventory – Operating Supplies”?

Now let’s examine the general ledger accounts a bit more closely. Leave the current view of the account master data by pressing the back button  until you get to the main menu.

Examine Some General Ledger Accounts for GBI

Menu Path: Accounting ► Financial Accounting ► General Ledger ► Master Records ► G/L Accounts ► Individual processing ► Centrally (**FS00**)

Let’s look at the following two accounts: 100000 Bank Account and 780000 Cost of Goods Sold.

Make sure that your company code is correct (**USXX**). Select the account or input the account code you want to examine and click on the display icon. The first thing you should notice is that there are more tabs than there were in our other view. This is because we are now looking at the complete record of the general ledger account.

Task 1.3: The SAP system is able to close the books at the end of a period by simply pressing a button. Examine the bank account (a real account) and cost of goods sold (a nominal account). The type of account and account group attributes in are used in the period closing process. What are these attributes for the accounts below?

1.2 100000 Bank Account:

1.3 780000 Cost of Goods Sold:

Task 1.4 The next question deals with special accounts.

1.4 310000 Goods Receipt/ Invoice Receipt: This account is a special suspense or temporary account. Investigate and discuss in your answer the function of this account and what its status should be after the successful completion of a purchasing transaction in a company.

Task 2 – Examine System Settings

In this step we look at one of the important settings in the system, the fiscal year variant. We will be looking at how our company set up the system to handle its specific processing requirements. This is termed SAP configuration. Configuration is done in the IMG (implementation guide). **Do not make any changes to the system while you are in the IMG.**

Menu Path: *Tools ► Customizing ► IMG ► Execute Project (SPRO)*

Select: **SAP Reference IMG**

Expand: **Financial Accounting (New)**

Expand: **Financial Accounting Global Settings (New)**

Expand and select: **Global Parameters for Company Code**

Select the execute icon next to: **Enter Global Parameters**

Highlight the line with your company code (USXX) by clicking on the box to the left of the company code.

Click on the details icon in the upper left of the screen.

2.1 What is the fiscal year variant for your company code (USXX) and what does this mean from the point of view of the accounting system?

2.2 The university would use fiscal year variant V6. Explain why this is the fiscal year variant for the university.

Click the yellow “Exit” icon until you are at the main menu again.

Task 3 – Create a Master Material Record for a Trading Good

Next we start the processing steps that are involved in a purchasing transaction. For the example that we use, the company is going to order a good that is not presently part of our inventory. In addition, we have not previously purchased goods from the vendor that we selected to supply the good. That means that we have to create a master record for the material and a master record for the vendor.

Remember, as discussed previously, these steps are typically completed by more than one person so that proper segregation of duties is maintained.

The material master record contains all the data required to define and manage a material. In SAP this is formally part of the Materials Management (MM) module. However, some important accounting information is also contained within this record. For example, product cost and pricing information and also tax information are contained within the material master record.

The master record consists of individual views and the individual views are presented in the form of tabbed pages. These views are organized on a functional or departmental basis. Each department has its own view that permits easy access and maintenance. In other words, data is integrated from engineering, manufacturing, sales and distribution, purchasing, accounting and other departments. This master data is used as a source of data for purchase order processing throughout the procurement cycle. For simplicity, we are ordering a finished good that we will subsequently sell. Just a reminder: When you see an “**XX**” enter your assigned SAP number.

Create a Material Master record for a Finished Product

Logistics ► Materials Management ► Material Master ► Material ► Create (Special) ► Trading Goods (MMH1)


Create Trading Goods: Initial Screen

Field	Input
Material (Number)	OLHTXX
Industry Sector	Retail

Click on the **Select Views** button on the **application tool bar**

Select the following views:

- Basic Data 1
- Purchasing
- General Plant Data/Storage 1
- Accounting 1

Click on **Continue (Enter)** 

Organization Level pop-up window

Field	Input
Plant	DLXX (Dallas)
Storage Location	TGXX (Trading Goods)

Click on **Enter** 

Basic Data 1(screen):

Field	Input
Material description (This is the field to the right of the material number.)	Special Edition Olympic Helmet XX
Base Unit of Measure	EA
Material Group	SFTY
Gross Weight	8
Weight Unit	OZ
Net Weight	9

Click on **Enter** 

You should receive an error message regarding net weight.

3.1 What type of application control is used on the field “Net Weight”? (Pick from the list of controls on page 2 of this assignment.)

3.2 What type of application control is used on the field “Base Unit of Measure”? (Pick from the list of controls on page 2 of this assignment.)

Change the net weight to 8.

Click on **Enter** 

Purchasing:

Field	Input
Purchasing Group	NXX

Click on **Enter** 

Plant Data/Storage 1

➤ No information is needed here. However, look at the data on this tab.

3.3 How might the data on this tab be important to a company and its inventory management? Can you think of an example of a company that might use the information on this tab to reduce inventory losses and spoilage?

Click on **Enter** 

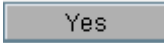
Accounting 1:

Field	Input
Valuation class	3100 (trading goods)
Price Control	S
Moving Price	32
Standard Price	30

The SAP terminology is a little confusing in this part of the process. What we would normally term cost, they term price. That is, by their terminology, price (not cost) is what we paid for the good.

Self-study: The Moving Price is the moving average price of the good. Why would the moving average price be different from the standard price?

Click on **Enter** 

Click on **Yes**  when asked to **Save**

3.4 Write down the message on the status bar.

Task 4 – Create a Vendor Master Record

We will buy our trading good from this vendor.

*Logistics ► Materials Management ► Purchasing ► Master Data ► Vendor ► Central
► Create (XK01)*

Create Vendor: Initial Screen

Field	Input
Vendor	VendorXX
Company code	USXX
Purchasing organization	USXX
Account group	LIEF

Click on Enter 

Create Vendor: Address

Field	Input
Title	Company
Name	Your last name XX
Search term 1/2	XX
Street/house number	Glenn 304
Postal code/City	95929 Chico
Country	US
Region	CA
Language	English

As an experiment, enter the time zone EST.

(Note: You may need to expand the street address to see all the above fields.)

Click **Next Screen**  or **Enter**  to go to next view

Note the error and then change the time zone back to the correct value of “PST” and click the enter icon.

4.1 What did the system do as an application control? That is, how did the system know that this was wrong?

Create Vendor: Control

- No Information needs to be entered

Click **Next Screen**  or **Enter** 

Create Vendor: Payment Transactions

- No Information needs to be entered

Click **Next Screen**  or **Enter** 

Create Vendor Contact Persons

- Enter your name as the contact name.

Click **Next Screen**  or **Enter** 

Create Vendor: Accounting Information Accounting

Field	Input
Rec. Account	300000 (payables – trade accounts)
Sort Key	001 (posting date)
Cash mgmnt group	A1 (domestic pmt.)

Click Next Screen  or Enter  to go to the next view

Create Vendor: Payment Transactions Accounting

Field	Input
Pay Terms (payment terms)	0001 (payable immediately)
Tolerance group (in payment terms)	GBI

- 4.2 a.** What is a tolerance group and how would it be used as an application control?
b. What type of application control is tolerance group?

Hint: Create an additional session and look at transaction code SPRO

Select: SAP Reference IMG

Expand: Financial Accounting (New)

Select: Financial Accounting Global Settings (New)

Expand and select: Document

Expand and select: Tolerance Groups

Select the green check mark next to: Define Tolerance Groups for Employees

Highlight your company code and then select details



Click Next Screen 

Create Vendor: Correspondence Accounting

- No information needs to be entered

Click Next Screen 

Create Vendor: Purchasing Data

Field	Input
Order currency	USD
Terms of Paymnt	0001

4.3 a. What are the payment terms from this vendor? _____

b. Since we are a new customer for this vendor, we may be able to negotiate changing these terms in the future. What factors would be important to the vendor giving us more favorable terms?

Click Next Screen 

Create Vendor: Partner Function

- No information needs to be entered

Click on Save 

4.4 Write down the message on the status bar.

Task 5 – Create an Information Record for the Vendor/Material

The creation of a material and a vendor will allow us to order those goods from that vendor. However, as an additional control, we can define the relationship between the good and the vendor. In SAP this is done by creating an information record. That is the next step in the process.

Create an Information record for Vendor/Material

Logistics ► Materials Management ► Purchasing ► Master Data ► Info Record ► Create (ME11)

Create Info Record: Initial Screen

Field	Input
Vendor	VendorXX
Material	OLHTXX
Purchasing Org.	USXX
Plant	DLXX

Click on Enter



Create Info Record: General Data

Click on Purch. Org. data 1

Purch. org. data 1

Create Info Record: Purch. Org. data 1

Field	Input
Pl.Deliv.Time	2 (days)
Purch. group	NXX
Standard qty.	10
Minimum qty	5
Net price	30

The above data defines the relationship between the material and the vendor.

5.1 Explain how this data can be a strong control in the purchasing process.

Click Save  .

5.2 Write down the Information Record number shown on the status bar. _____

Task 6 – Check Status of Various Accounts

The power of an ERP system is that the business transactions are simultaneously recorded in all of the affected areas of the business in real time. In order to understand this we want you to determine which accounts should be affected by the transactions that follow. In this case the following accounts should be checked:

- Check inventory in materials management
- Check inventory in the general ledger
- Check cash in the general ledger
- Check accounts payable in the general ledger
- Check goods received/invoice received account in the general ledger
- Check accounts payable in the subsidiary ledger

These checks should be done after each step of the transaction. I would suggest that you open a series of SAP sessions to do this checking and then **refresh the screen after each business transaction task.**

Check the status of various accounts

- Check Material inventory: **Transaction: MMBE**, (Stock Overview)

Be sure to check the detailed status report to see important changes to inventory. Enter the Material your created (OLHTXX) and your plant code (DLXX). Double click on your material or scroll to the right to see all fields in the inventory inquiry screen.

- Check GL Cash, GL Inventory, GL AP and Goods Received/Invoice Received – All of these can be seen from: **Transaction: S_ALR_87012291**, (Line Item Journal)

> The company code is **USXX** and use today's date (or the date range of the transactions) as the posting date

> The General Ledger (GL) Accounts used are:

- | | |
|---|--|
| ▪ GL Cash | 100000 (bank account) |
| ▪ GL Inventory | 200000, 200100, 200200 , 200300, 200400 |
| ▪ GL AP | 300200 |
| ▪ Goods Received/Invoice Received (GR/IR) | 310000 |

Recommend once you select the data that you choose Layout Variant **/MIS5121** which displays the information in a more readable form.

- Check A/P sub-ledger: **Transaction: FBL1N** (Vendor Line Item Display)

Enter the **change in value** for each of these accounts after each step noted. You will be completing this table as you go through the subsequent steps

Transaction	MMBE	S_ALR_87012291				FBL1N
	Inventory Quantity	Inventory-Trading Goods	Bank Account (Cash)	Accounts Payable (A/P)	Goods Receipt/ Invoice Receipt (GR/IR)	Vendor Sub-ledger
Account #	-	200200	100000	300200	310000	-
After task 5						
After task 7						
After task 9						
After task 11						
After task13						

Note: on some of the above transactions if there is no value in the account, you may get an error message or no lines on the report when trying to display the balance. This is normal and simply means that the balance in the account is zero.

Task 7 – Create a Purchase Order to Buy the Trading Good

Now that the master data has been entered into the system, we are ready to process a purchasing transaction.

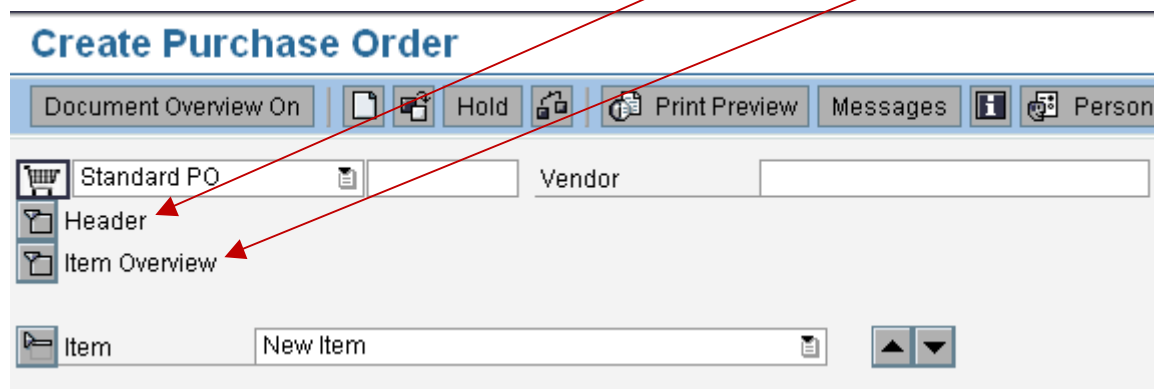
Create a Purchase Order

Logistics ► Materials Management ► Purchasing ► Purchase Order ► Create ► Vendor/Supplying Plant Known (ME21N)

Create Purchase Order

Field	Input
(Field will be defaulted)	Standard purchase order
Vendor	VendorXX
Document date	Today' date

Note: If the screen looks like the following, click on Header and Item Overview icons to expand those areas.



When you expand your view, an error message will tell you to enter the organizational data and redirect you to the Org. Data page.

If you are not redirected to the org. data page, click on the **Org. Data** tab page, enter the following data:

Field	Input
Purchasing org.	USXX
Purchasing group	NXX
Company code	USXX

Click **Enter** .

*Hint: If you get an error message regarding the purchasing group, hit **Enter** again and enter the data for the purchasing group.*

Item overview area

Field	Data
Material	OLHTXX
P.O. Quantity	50
Delivery date	Today's date
Plant	DLXX
Storage location	TGXX

Click **Enter** .

7.1 When you click on enter, the description of the material, unit of measure and price will be filled in. Where did this data come from?

7.2 Note the warning at the bottom of the screen regarding the delivery date. What kind of an edit check is this warning?



Click **Save** .

7.3 Write down the purchase order number _____.

Task 8 – Check Status of Various Accounts

Repeat the checks in task 6 and record in that table.

Task 9 – Receive the Product from the Vendor


We now need to record that we have received the goods we ordered in task 7.

Receive Goods from the Vendor

Logistics ▶ Materials Management ▶ Inventory Management ▶ Goods Movement ▶ Goods Receipt ▶ For Purchase Order ▶ PO Number Known. (MIGO)

Goods Receipt Purchase Order screen.

Field	Input
Purchase Order	Purchase order # from task 7
Delivery Note	XX

Click on **Enter**  and all the data will be copied from the purchase order.

Select **Item OK** **Item OK** at the bottom of the screen to confirm the receipt.

Click on **Save** .

9. Write down the material document number _____.

Task 10 – Check Status of Various Accounts

Repeat the checks in task 6 and record in that table.

Task 11 – Receive the Invoice from the Vendor


The vendor sends the invoice for the delivered goods and we need to recognize the receipt of the invoice in the system.

Logistics ► Materials Management ► Purchasing ► Purchase Order ► Follow-on Functions ► Logistics Invoice Verification (MIRO)

Note: If a small window appears asking for company code, enter **USXX** as company code. If the company code shown is not your company code select **Edit ► Switch company code** and enter your company code.

Enter Incoming Invoice: Company Code USXX

Field	Input
Invoice date	Today's date
Posting date	Today's date
Reference	XX
Purchase Order/Scheduling Agreement	Purchase order # from task 7

Click on **Enter** , the information will be copied from the purchase order to the invoice

- Enter **Amount** (in Basic data tab) same as the **Balance** shown in the upper right corner

Click on **Enter** , the balance should now be 0.00 and the light should be green.

Click on **Post**  (Save).

11. Write down the invoice number (document number) _____.

Task 12 – Check Status of Various Accounts

Repeat the checks in task 6 and record in that table.

Task 13 - Make the Payment to the Vendor

Accounting → Financial Accounting → Accounts Payable → Document Entry → Outgoing Payment → Post (F-53)

Post Outgoing Payments: Header Data

Field	Input
Document Date	Today's date
Posting Date	Today's date
Company Code	USXX
Currency/Rate	USD

Bank Data area

Account	100000 (Bank Account)
Amount	Amount of payment

Open Item Selection area

Account (the vendor number)	VendorXX
Automatic search	Select

Click on **Process Open Items** Button

The **Not Assigned amount** should be 0.00

Post (Save)  the transaction.

13. Write down the document number. _____

Task 14 – Check Status of Various Accounts

Repeat the checks in task 6 and record in that table.

Task 15 – Write down the system-generated journal entries

By using the information contained within the table in task 6, construct all of the journal entries that were made by SAP for these transactions. For each journal entry show the task number of the transaction, the accounts debited and credited and the dollar amounts involved. Use the following format:

Task #	Account	Debit	Credit
5	0000000 – Account xxx	\$,000	
	00000000 – Account yyy		\$,000
7		\$,000	
			\$,000
9			
11			
13			

Assignment Submission

Place your answers on the abbreviated form of this assignment that is provided for you as “Ex 1 P2P Submission Sheet.xlsx”. Grading of the SAP part of the assignment will be done online. That is, there is nothing you need to submit with respect to your SAP work.