Reading Sample

In this chapter, you'll explore the main components of each piece of master data and their importance in the procurement process. You'll learn why and how each field affects the outcome in a purchasing document so you can more efficiently maintain your master data to yield better results when executing purchasing activities.

The materials you buy, the vendors from which you buy, and the prices your company pays each vendor are all part of the master data in the SAP ERP system.

2   Master Data

The versatile SAP ERP system provides many ways to buy, stock, sell, and value materials. Many of these options are set on an individual material basis. Those settings are entered in the central material catalog or material master. In the same way that you store information and settings for the materials your company buys, manufactures, and sells, you can also store information and settings for the vendors you source the materials and services from in the vendor master. Further master data for procurement is created when you detail prices, discounts, and terms of payment for each material via purchasing info records in SAP ERP when you buy the material from different vendors.

In this chapter, we'll explain the main components of each piece of master data and their importance in the procurement process. You'll learn why and how each field affects the outcome in a purchasing document so you can more efficiently maintain your master data to yield better results when executing purchasing activities.

2.1   Importance of Master Data in Procurement

Master data in SAP ERP, specifically in Materials Management (MM) procurement, is the foundation on which transactions are executed. When you create a purchase order in the SAP ERP system, for example, you'll have to enter the vendor number for the party you're buying from, the material number of the product you're buying, the quantity you're ordering, and the place where you want it delivered.

Based partially on this information, the system determines the price and the discounts that you can get from this vendor, the shipping address, the place where the vendor is shipping the materials to, the shipping conditions, and the shipping methods. The system also determines what kind of information needs to be passed on to the warehouse so that the warehouse employees can start putting away the product when they receive it. The system also tells them if quality inspection of the goods is required.

Automatic determination

As you can see, when you create transactional data, the system makes many determinations for the execution of that business process that are based on business rules and on the master data involved in that transaction.

If you want accurate results, you'll need to make sure that the master data is accurate. The more time you invest in making sure that the master data is correct and complete, the better the transactional results will be, thus substantially reducing the time required to correct or complete incorrect or incomplete transactions, which, in the end, results in better order fulfillment, fewer missing parts, and thus higher quality in your company.

Invest time in master data

Pricing is another important element. You'll need to make sure that the relevant pricing condition records, including list prices, volume discounts, shipping surcharges, and other price variables, are included. This information avoids errors in the value of the purchase orders. Pricing will be discussed in detail in later chapters.

Pricing

Master data isn't static and must be maintained constantly and accurately. Your SAP experience will be much more productive and much less stressful if you make sure your master data is of the highest quality possible. Now that you understand why master data plays such an important role in procurement activities, let's move on to discuss the different types of master data that need to be maintained.

2.2 Material Master

The material master is the central repository of data about everything your company sells, buys, or transforms. The SAP ERP system treats

materials differently according to their purpose in your company. To differentiate them, materials are classified into material types:

▸ **Raw materials**
These materials will be either transformed or assembled in your company's production processes. Each has to be set up in the material master.

Material types

▸ **Trading goods**
These goods are products that your company buys and then resells without any transformation. For example, a wholesaler or a sales company acquires manufactured goods from other companies in the same corporation and then sells them to retailers or end consumers.

▸ **Non-stock materials**
These materials aren't kept in a warehouse. For example, software is downloaded from a digital stream instead of installed from a CD shipped from a warehouse.

▸ **Services**
All the services your company buys from other companies, such as maintenance, consulting, or auditing, must be set up in the material master. You would also set up those services your company sells in this material type.

▸ **Packaging materials**
These materials will contain or wrap the products when shipped from the warehouse. Examples of packaging materials are boxes, crates, containers, and so on.

▸ **Finished goods**
The result of the manufacturing or assembly process is a finished good that will be sold to clients. In some cases, finished goods are also bought or transferred from other subsidiaries of your company.

▸ **Competitive products**
Some companies decide to keep material master records for products from their competitors. The intention is to keep track of the product's characteristics and notes about how a product compares to your company's own products.

In the material master, you'll keep generic information such as the SKU number; a brief description of the item; and the item's dimensions, the weight, and the unit of measure (UoM). You'll also classify the item by assigning it a material group and a place in the product hierarchy. In the material master, you also assign different EAN codes for different product presentations or packaging, such as single items, six-packs, and so on.

Views

Each material type requires a different type of data, and the SAP ERP system uses what, in SAP terms, is known as *views* to organize the sets of data for each material type. We'll discuss the different views that are available in the material master (as shown in Figure 2.1) in the following subsection.

Figure 2.1 The Basic Data View of the Material Master

2.2.1 Basic Data View

This view contains information that is central to the material, which denotes that all the departments in a company use the information. In the following subsections, we'll introduce you to some of the most important fields in the BASIC DATA views.

Material Number

This number uniquely identifies an item in the system. In the SAP ERP system, the number can either be assigned automatically by the system through the use of internal number ranges, or it can be assigned by the user via external number ranges. In your company, you'll have either internally or externally assigned numbers depending on your own needs and business definitions. So depending on your system setup, you'll either enter an external material number or leave the field blank so the system can assign a number from the pool of number ranges.

Cross Plant Material Status

The X-PLANT MATL STATUS field is used to communicate the stage in the product's lifecycle where the product is. These statuses are maintained during the configuration of the system and can tell you that the material is, for example, in development or has been released for sales, if it's blocked, or even if it's discontinued. This field isn't only for informational purposes; it drives specific functionality based on the configuration of the system, allowing or blocking certain business functions such as buying or selling. You'll have to select the right value for each material, depending on its status, to determine which functions are available.

Base Unit of Measure

Every material is handled differently; for example if you work in the chemical industry, you might be buying raw materials or selling your finished products by either weight or volume. So the unit of measure for your material is either kilograms/pounds or liters/fluid ounces, allowing you to know how much stock is available in the warehouse, as well as how much you order from your vendors. In the consumer product

industry, you likely buy and sell your products by the piece, so a piece (PC) is the base unit of measure. Make sure you select the right unit of measure because, after you create transactions, have stock, or add this material to other master data, the system won't let you change it.

Net Weight, Gross Weight, and Volume

These fields are important for storage, shipping, and transportation activities. If these values are inaccurate, your company might overpay on shipments or overload trucks, which in both cases will result in stopped shipments and ultimately in unsatisfied customers. Make sure you enter the right information in these fields; one way to get the correct weight and dimensions is to run each material through a machine such as a CubiScan™.

Product Hierarchy and Material Group

These two fields help you classify and give a hierarchy to the products. If your company sells sporting goods, for example, then you might have material groups that segregate golf products from clothing, baseball products, and so on. The hierarchy provides a similar classification but can be more granular. You can have several levels, which allows you to build a product family tree.

Another important feature of the material group and the product hierarchy is that they are used by the financial modules to derive special postings and profitability analysis. Always make sure you discuss the values to be entered in these fields with your engineering, sales, and controlling peers.

2.2.2 Purchasing View

The PURCHASING view, shown in Figure 2.2, contains data that is relevant only to a specific purchasing organization and plant. This view allows different areas of the same company to buy the same material or product in different manners, according to their processes or geographic locations. Different areas may buy the same product differently. We'll go over the most important fields in the following subsections.

Figure 2.2 Purchasing View

> **Note**
>
> Although several other fields exist in the PURCHASING view and in general in the material master, the ones we'll discuss could cause more problems while processing purchasing documents if not properly set.

Purchasing Group

This field indicates which group or person is in charge of buying this material when required. Enter values that reflect who buys each material.

Order Unit

When you buy a material in a unit of measure different from the base unit of measure, you can indicate this difference in the ORDER UNIT field. You'll have to indicate a conversion factor between the two units of measure so that the system can calculate the quantities and prices correctly. A unit here will apply for all vendors; you may choose to use this information in the specific purchasing info record for each vendor. Enter the value that better reflects the way you purchase your material, for example, boxes, bags, pallets, and so on.

Plant-Specific Material Status

The plant-specific material status field (PLANT-SP.MATL STATUS) restricts the usability of the material for the plant concerned; that is, this status defines whether a warning or error message is displayed if you include the material in a particular function in Purchasing, Inventory Management, Warehouse Management, Production Planning, Plant Maintenance, or Costing. For each material, depending on its status, you'll have to select the right value to determine which functions are available.

Valid From

When a status is managed, a validity date until when that specific status is valid must be entered. Normally, you'd enter the current date in this field.

Tax Indicator

The TAX IND. F. MATERIAL field helps the system during tax determination. This indicator is used, along with other system settings, to determine the tax code that applies for specific purchases. Check with your finance peers on the correct values that you need to enter here.

Automatic PO

The AUTOM. PO indicator, used with other vendor information, allows the system to automatically create purchase orders from purchase requisitions. When this indicator isn't set, you'll have to manually convert requisitions into purchase orders. Select this field only if you want to allow the creation of automatic POs. Leave this field blank if you'll convert them manually.

Purchasing Value Key

This field drives several things in the system: reminders to the vendor for expediting the shipments, tolerance limits for receipts of material into the warehouse, minimum receipt quantities, and whether acknowledgements are required. This field also includes the shipping instructions that apply for each material. All these values guide the functionality of the purchase orders. Check the available values offered by your system configuration and select the one that best suits each material. If you need different values, only a functional analyst can create and configure them for you.

Goods Receipt Processing Time

This value tells the system that this material isn't received into stock as soon as it's delivered at the warehouse. The warehouse processes may delay the receipt for a few days, and that time is taken into consideration in the delivery lead time to ensure timely availability of the materials. Check with your warehouse and quality groups on the time they need to put the material into stock from the moment it's received through the dock door.

Quota Arrangement Usage

A material can be included in a quota arrangement if the QUOTA ARR. USAGE field is used. Quota arrangements are discussed in later chapters. Enter the right value for the different purchasing documents where quota arrangements are going to be used for each material.

Post into Inspection

A material is put into inspection stock upon receipt at the warehouse when the POST TO INSP. STOCK field is set. This triggers the Quality Management (QM) functionality. Check this field only if you're using

the QM component in your company because it triggers specific functionality and affects the stock category where the material is received.

Source List

A material requires a source list if this field is used. Source lists are discussed in more detail in Chapter 4. Check this field only if a source list is mandatory.

Manufacturer Part Number

You can keep the number your vendor identifies a material with in this field, which can then be used in purchase orders. Enter the manufacturer part number if you need it to appear in the PO when you purchase this material.

Manufacturer

The MANUFACT. field indicates which manufacturer makes this part. In this field, you select the manufacturer from the vendor master. So if you're going to use this field, you'll need to create the vendor.

Critical Part

When you use this field, the system tells the QM component that a full count needs to be done on this material upon receipt at the warehouse.

Table 2.1 provides a list of transactions for material master maintenance.

Transaction	Menu Path
MM01: Create Immediately	LOGISTICS • MATERIALS MANAGEMENT • MATERIAL MASTER • MATERIAL • CREATE GENERAL • IMMEDIATELY
MM02: Change (any material type)	LOGISTICS • MATERIALS MANAGEMENT • MATERIAL MASTER • MATERIAL • CHANGE • IMMEDIATELY

Table 2.1 Material Master Transactions via the Materials Management Menu

Transaction	Menu Path
MM03: Display (any material type)	LOGISTICS • MATERIALS MANAGEMENT • MATERIAL MASTER • MATERIAL • DISPLAY • CURRENT
MMH1: Create Trading Goods	LOGISTICS • MATERIALS MANAGEMENT • MATERIAL MASTER • MATERIAL • CREATE SPECIAL • TRADING GOODS
MMN1: Create Non-Stock	LOGISTICS • MATERIALS MANAGEMENT • MATERIAL MASTER • MATERIAL • CREATE SPECIAL • NON-STOCK
MMS1: Services	LOGISTICS • MATERIALS MANAGEMENT • MATERIAL MASTER • MATERIAL • CREATE SPECIAL • SERVICE(S)
MMV1: Create Packaging Materials	LOGISTICS • MATERIALS MANAGEMENT • MATERIAL MASTER • MATERIAL • CREATE SPECIAL • PACKAGING
MMH1: Competitor Product	LOGISTICS • MATERIALS MANAGEMENT • MATERIAL MASTER • MATERIAL • CREATE SPECIAL • COMPETITOR PRODUCT

Table 2.1 Material Master Transactions via the Materials Management Menu (Cont.)

2.3 Service Master

We've already mentioned that you can create services in the material master and that you can then buy them for your company as if they were any other part or component. And sometimes that is just fine, but some services may require more effort, such as consulting or construction projects that take a long time and in which you have to account for hours of services rendered, for progress in a deliverable, or for any other partial delivery.

Services created in the material master, being non-stock materials, can't be received, so the only function in MM is the invoice receipt, in which you enter the billed amount into accounts payable.

Non-stock materials

The SAP ERP system includes the ability to track this kind of service through the Purchasing component with the use of the service master. Any services created in this master catalog receive special attention and can be received or verified by an employee who is tasked with this responsibility. Usually, the responsible person is the manager of the

area that requested the service or a project manager in charge of a specific project.

You can purchase, for example, the total number of consulting hours that a project requires and receive, or verify, the partial hours rendered every week. Receiving a service in the SAP ERP system consists of completing a service entry sheet, which is to services what a goods receipt is to materials. A sample purchase order for a service is shown in Figure 2.3; note the account assignment K and item category D for the service.
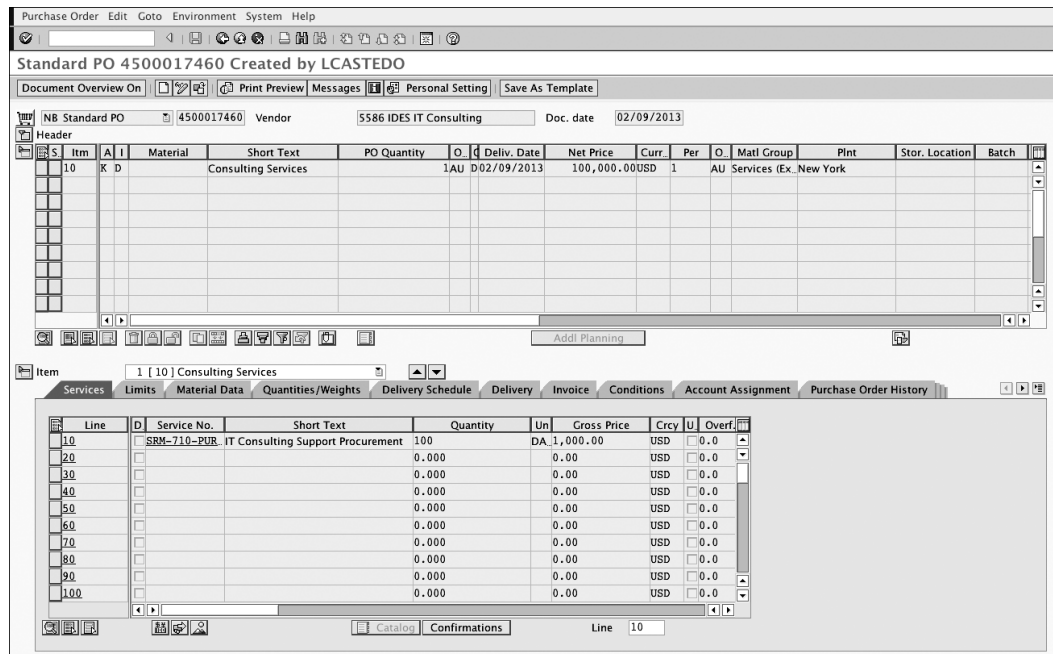
Figure 2.3 Sample Purchase Order for a Service

Three-way match This way, you can match the deliverables requested in the purchase order with the services rendered and verified in the service entry sheet and then also with the invoice in the Invoice Verification process—giving you a three-way match.

Additionally, the service master allows you to standardize communications with your vendors so that you both refer to the same entry or work

breakdown structure (WBS) in a project plan. You can also make reference to a higher-level service when you're specifying subservices, as shown in the example in Figure 2.4.
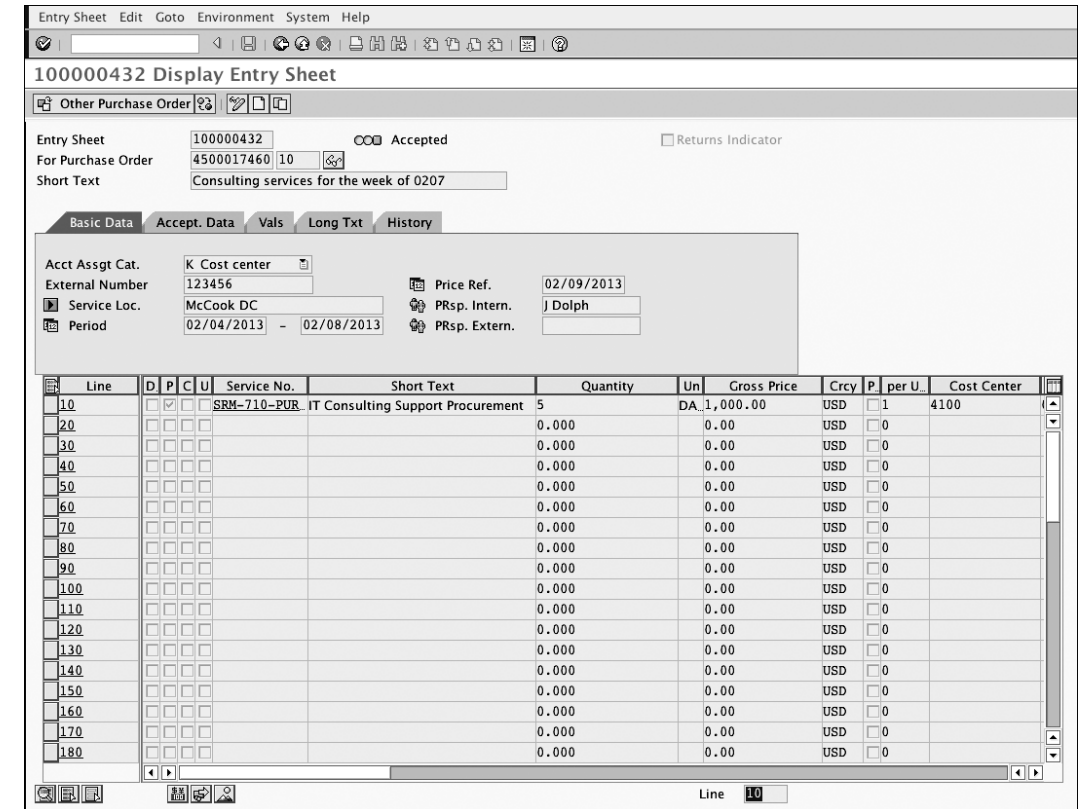
Figure 2.4 Sample Service Entry Sheet: Service Delivery and Progress

2.3.1 Service Master Sections

In the following subsections, we'll describe some of the most important fields in the service master shown in Figure 2.5. The service master doesn't have views but instead has different data sections.

Figure 2.5 Service Master Data Sections

General Data

The upper section of the service master includes the following:

▶ ACTIVITY NUMBER
This number *uniquely* identifies a service in the system. This number is externally assigned. The text box next to the number is the service short text where you can enter a description of the service.

▶ SERVICE CATEGORY
This field is used to categorize the different services your company buys. These categories classify services and are equivalent to the material type in the material master, which determines the valuation class for the service. The available values are set in configuration and can't be changed by users.

▶ BASE UNIT OF MEASURE
The base unit of measure is the unit in which the service will be bought from the vendor.

▶ DELETION INDICATOR
Unlike the material master, in the service master, you can set the deletion indicator directly in each service.

Basic Data

The BASIC DATA section includes the following:

▶ MAT/SRV.GRP
The material group helps group together services that belong to the same service hierarchy. The material group also helps finance derive special postings and profitability analysis. The available values for this field are also set in configuration and can't be changed by the user.

▶ DIVISION
The division is another value that helps you group services for sales. This field isn't relevant for purchasing services.

▶ VALUATION CLASS
This value is the key used to derive accounting postings in conjunction with material movement types used during service confirmation.

Standard Service Category

The STANDARD SERV. CAT. section includes the following:

▶ SERVICE TYPE
The service type is used to standardize texts that are used to identify services in communication with the vendors. For example, if a service

is part of a project, you can define types that tie to mutually agreed codes such as a WBS number.

▸ SSC ITEM
This number comes from the Service Catalog and helps standardize service descriptions to help eliminate data redundancy. This number is also used to link services in the SAP system with the number assigned by the partner rendering it; for example, a WBS number such as "1.1.3".

Purchasing Data

The PURCH. DATA section includes the following:

▸ PURCHASING STATUS
The purchasing status controls the usability of the service in purchasing activities. By assigning a status, you can, for example, quote a service, requisition a service, purchase a service, or do nothing at all.

▸ VALID FROM
When a status is managed, a validity date until when that status is valid must be entered.

Internal Work

The INTERNAL WORK section includes the CONVERSION fields that allow you to include conversion factors for the service's base unit of measure, such as days to hours.

Long Text

The LONG TEXT free format text field can hold a long description of the service—as long as several pages.

2.3.2 Creating a New Service

To create a new service, go to Transaction AC03 or follow the menu path: LOGISTICS • MATERIALS MANAGEMENT • SERVICE MASTER • SERVICE • SERVICE MASTER. Once there, enter a short text that describes the ser-

vices, a service category (usually you'll choose SERV for service purchasing), and the base unit of measure.

In the BASIC DATA view, enter a material group and a valuation class, which is the minimum information that you'll need to provide to create a service, depending on the kind of service you're creating. You can take a look at the fields described earlier and then decide if you need to use specific fields for your own purposes.

Table 2.2 includes a list of transactions to maintain and list services and standard service catalogs (SSC).

Transaction	Menu Path
AC03: Service Master	LOGISTICS • MATERIALS MANAGEMENT • SERVICE MASTER • SERVICE • SERVICE MASTER
AC06: Service List	LOGISTICS • MATERIALS MANAGEMENT • SERVICE MASTER • SERVICE • SERVICE LIST
ML01: Create	LOGISTICS • MATERIALS MANAGEMENT • SERVICE MASTER • SERVICE • STANDARD SERVICE CATALOG • CREATE
ML02: Change	LOGISTICS • MATERIALS MANAGEMENT • SERVICE MASTER • SERVICE • STANDARD SERVICE CATALOG • CHANGE
ML03: Display	LOGISTICS • MATERIALS MANAGEMENT • SERVICE MASTER • SERVICE • STANDARD SERVICE CATALOG • DISPLAY
MLS6: List Display	LOGISTICS • MATERIALS MANAGEMENT • SERVICE MASTER • SERVICE • STANDARD SERVICE CATALOG • LIST DISPLAY

Table 2.2 Transactions for Service Master Maintenance

2.4 Business Partners

To initiate any transaction in any enterprise resource planning systems, including SAP ERP, such as creating a purchase order, receiving an incoming delivery, and issuing payment, you must have master data objects defined, including your business partners. In SAP ERP, you can clearly divide these business partners depending on the business transaction and the role this partner plays. Business partners can be defined as the following:

▶ **Vendors**
A vendor is a primary business partner that deals in procurement pur-chasing functions; that is, vendors provide your company, affiliates, or external customers with goods and services directly. Vendors can also be both internal and external, such as your distribution ware-houses or other affiliates procuring goods within your organization. Also, if your vendor is buying goods and services from your organiza-tion, you can link the vendor master record to the customer master.

▶ **Customers**
A customer is a business partner to whom you're providing goods or services. Customers can be external or internal, and if that customer is also providing you with goods and services, you can link the customer master record to a vendor master. Individual customer master records can be defined for specific partner functions and can be linked together.

▶ **Other partners**
This partner category includes a mix of things such as site data, con-tact person, sales personnel, and competitors. Some of these objects can also be linked to other business partner master records.

In the following sections, we'll explain how to work with business part-ners.

2.4.1 Number Ranges, Account Group, and Field Status

Before you can create any vendor-related transactions, you'll need an account—a vendor master—for a business partner, and you'll have to assign an account group that defines the type of vendor. Depending on the configuration setting, you may need to specify the account number using an external number range or let the system assign the internal number range for you. The following objects help in defining and man-aging the business partner data:

▶ **Number ranges**
The NR field contains the number range used to define the business partner account; this entry can be all numbers or alphanumeric. Every business partner requires an account number. You define the number ranges in configuration and assign intervals to account groups. This

assignment will then be proposed when the account is created—either internally by the system or externally where you'll manually enter a number during account creation.

▶ **Account groups**
Account groups serve as templates for business partner accounts that should have the same properties such as number range and data screen layouts and fields that are captured. The account group man-ages display screens, their sequence, and fields for entering data. Some examples of different account groups are shown in Figure 2.6.

Figure 2.6 Account Groups

▶ **Field status**
Field status allows you to suppress or require certain data fields. Each of your account groups can have different data requirements; for example, standard vendor accounts won't have the same fields as one-time suppliers. A one-time vendor won't require banking informa-tion, for example. You can define field statuses based on the transac-tion used or make them company code-specific—but these settings should only be made as exceptions.

Tips & Tricks

When you create new account groups, always maintain the field status. If you don't mark a status for a field group, all relevant fields will be set to optional

and will be displayed during vendor account creation or changes. Also bear in mind that, if you're changing settings for an existing account group with existing vendor master records in the database and you suppress a certain field, its content will be considered when the transactions are processed.

2.4.2 Vendor Master Data Structure

Vendor master records are generated using the previously discussed template data defined in the account groups. Vendor data presented to you is organized and grouped based on the level of detail, from the most generic to most specific. Vendor master data stores the information that is relevant for the different uses within procurement and other functionalities and is broken down to general data, company code, purchasing organization, and sales and distribution data for accounts linked to the customer master.

Transaction XK03

To understand the data structure, we'll walk through the vendor master display transaction by accessing Transaction XK03 (Display Vendor) or by following menu path: Logistics • Materials Management • Purchasing • Master Data • Vendor • Central • XK03 – Display. Several different data tabs are available. The following subsections provide more explanation of each data group.

General Data

General data applies globally to one unique business partner for all of your business organizational structures. This section includes the following:

▸ Address
In this field, you'll store the name of the vendor, search terms for fast entry; its physical address; and, if needed, PO box information and communication information, such as phone numbers, fax, and email address.

▸ Control
In this field, you can link your vendor with the customer master records and reference data further defining the industry, location, transportation zone, tax, and VAT information.

▸ Payment Transactions
This data tab stores the vendor's bank information and alternative payer data.

▸ Contact Person
This field holds the miscellaneous master data object, which allows you to create a detailed contact list of people working for your vendor that you're communicating with. You can keep record of their home address, personal data, and visiting hours.

Company Code Data

The company code data is the next segment of the vendor master and applies to one unique company code, storing information relevant to Financial Accounting (FI). If you have multiple company codes, you will have multiple records created. The following data sections are maintained:

▸ Account management
This field stores accounting data, including reconciliation accounts, interest calculations, and reference data, such as the previous account number, personnel number, and buying group.

▸ Payment Transactions
This field records the terms of payment and tolerance group and allows you to enable payment history recording and set the time for the deposited checks to clear for monitoring purposes. You can also maintain information for automatic payment transactions.

▸ Correspondence
In this field, you can maintain data related to dunning procedures, maintain accounting clerk data responsible for communication with the customer, and set payment notices to be sent to your customer after the payments clear.

▸ Insurance
This field records the insurance policy number, provider, and amount insured as well as the validity dates of the export credit insurance.

▸ Withholding Tax
In this field, you can maintain the tax withholding data by selecting the tax types, tax codes, and validity periods applicable to them.

Note

Extended tax withholding functionality must be active for the company code selected to maintain this data.

Purchasing Organization Data

In this portion of the vendor master, you can maintain data that's driving purchasing transactions. Figure 2.7 shows an example of the DISPLAY VENDOR: PURCHASING DATA screen.

Figure 2.7 Vendor Master: Purchasing Data

These settings are purchasing organization-specific, so if you've implemented a decentralized form for your organization, you'll have an option to create multiple different records for the same supplier.

The following data sections can be set up here:

▶ CONDITIONS
This section is used to influence pricing, pricing schema determination, order currency, and Incoterms.

▶ SALES DATA
If you have a specific person that is identified as a salesperson as your primary contact and if you have an account with this vendor, you can store this information here.

▶ CONTROL DATA
This section of the purchasing organization data stores several different controls related to PO acknowledgement requirements, invoice receipt processing, evaluation receipt settlement (ERS) settings, and settlement controls. You can also set the return vendor assignment by linking your vendor to a customer master ship-to account, setting the shipping conditions default, setting the ABC indicator where entering "A" indicates the greatest share of your business annual spend in dollars and cents, and finally setting the foreign trade data defaults.

▶ DEFAULT DATA MATERIAL
This section allows you to preset data that will be copied into purchasing documents during transactions. You can set the purchasing group (buyer) tied to the vendor account, the planned delivery time, and the confirmation control key that controls if advance shipping notification is required to process your purchase orders for a specific supplier. You can also set up a default unit of measure group for grouping several allowed units of measure used in rounding profiles.

▶ SERVICE DATA
This section houses additional controls for vendor-managed inventory (VMI) scenarios and automatic load builder transactions.

Partner Functions

Roles

In real-world purchasing scenarios, you'll place an order with a supplier that receives your purchase order, another party sends the goods, you'll get an invoice from the vendor's headquarters, and you'll send your payment to yet another location by another partner at a different location where their accounts receivables are processed. SAP allows you to define this complex structure by maintaining all relevant or even mandatory partner functions via partner roles. *Partner roles* are defined in IMG Customizing, and allowed role combinations are assigned to account groups. Here is a list of some of the commonly used partner roles:

Commonly used roles

- AZ: Alternative payee
- DP: Delivering site
- GS: Goods supplier
- FA: Forwarding agent
- IP: Invoice presented by
- OA: Ordering address
- VN: Vendor

For example, you may want your vendors to have multiple ordering address partners, but you may not want the ordering address to be defined as a plant or invoicing party. Figure 2.8 shows examples of permissible partner role relationships to account groups.

Figure 2.8 Permissible Partner Role Definitions

Uses

Some of the most common uses for the partner functions include the following:

- **Ordering address**
  Usually used for output processing
- **Goods suppliers**
  Used for tax purposes and foreign trade
- **Invoice presented by**
  Used to identify a party that will produce the invoice for your order

You can also define allowed partner combinations in a form of partner function determination schema, which is a kind of template that can be applied repeatedly to speed up your data maintenance. The partner function determination schema—defined in IMG Customizing—sets the required partner functions, which are then assigned to the account group, purchasing documents, and rebate agreements. You can make certain partners mandatory and control whether changes are allowed after a record is created. These schemas are used when you define the vendor master record, create purchasing documents, or create rebate agreements.

The PARTNER FUNCTIONS data screen, shown in Figure 2.9, allows you to maintain permissible partners and their account numbers. You can also display partner addresses and remove the entry, if needed, using the DELETE LINE button.

Figure 2.9 Vendor Master: Partner Function Data

Keeping it simple

When setting up your vendors and partner roles, try to make them as simple as possible to make your vendor master data maintenance easier and cleaner, especially if your organization spans multiple environments and other legacy applications.

Alternative Purchasing Data

If you have detailed procurement requirements and your MRP also requires a lot of information to maintain multiple plants in a geographically distributed organization and supply chain, you can use alternative purchasing data.

Vendor subrange · This extended data maintenance feature allows you to capture separate purchasing organization and partner function details using individual plants and/or vendor subranges. Access the subrange data maintenance from the PURCHASING ORGANIZATION DATA maintenance screen by using the SUB-RANGES button shown in Figure 2.10.
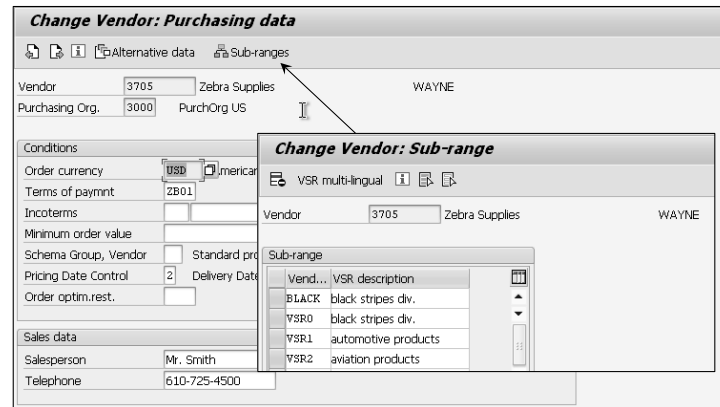
Figure 2.10 Vendor Master: Subrange Maintenance

Vendor subranges can represent groups of your vendor product offerings, such as fasteners, abrasives, oils, and so on. Each of these subrange groups is then assigned to a purchasing info record (see Section 2.8 for more details). Purchasing info records help determine the data during PO creation; the vendor information, including partner functions, and data such as planned delivery time for the material being purchased automatically populate the fields.

Group-specific data · Vendor subrange master data allows you to maintain product group-specific data, which can be used in combination with your destination plants. You can have different planned delivery times, Incoterms, and currencies for a specific plant/subrange combination and also different partner function combinations; see Figure 2.11 for examples. In the

screen, you can locate the VENDOR SUB-RANGE entry for AUTOMOTIVE PRODUCTS and PLANT NEW YORK combination with "X" in the PURC. (purchasing) and PARTNER columns. When you double-click on the X or click on the PURCHASING or PARTNERS buttons, you'll get to the detailed screens where you can maintain the data. For each subrange line shown, you can have different data applied.
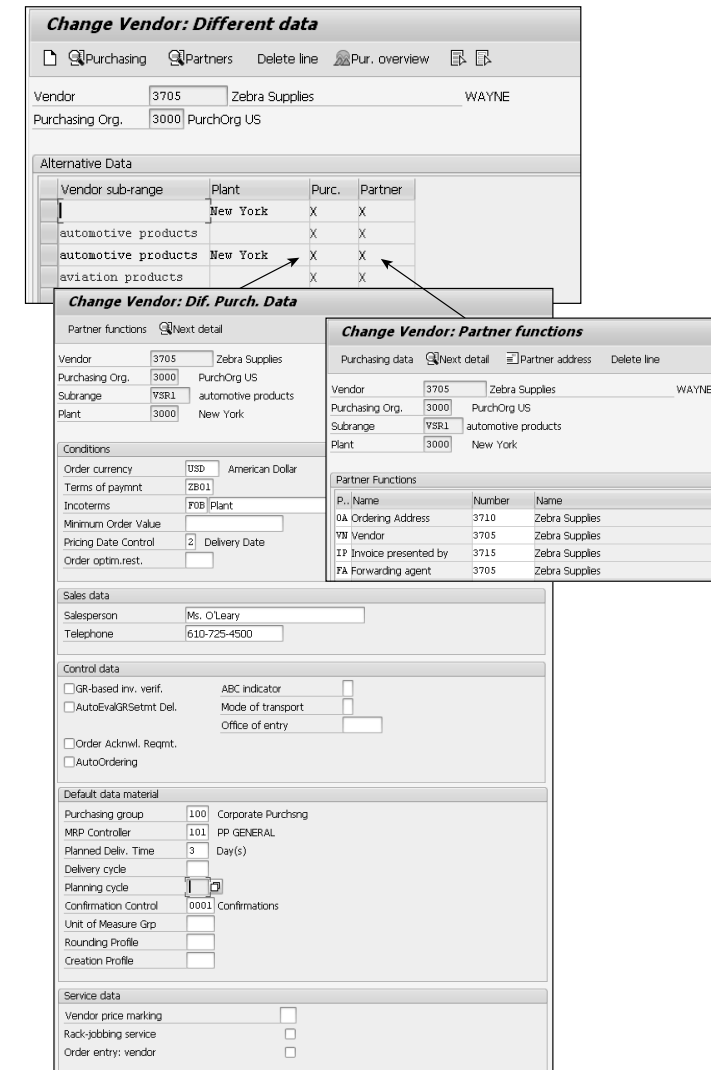
Figure 2.11 Alternative Purchasing Data and Partner Functions

Delivery Cycle

You can assign a planning calendar that specifies the days your vendor delivery should be planned for, that is, basically establishing the delivery cycle. Imagine you want your vendor to deliver goods every Friday, and the planned delivery time is three days. All POs created before Wednesday will get this week's Friday delivery date. Any PO created after Wednesday will be scheduled to be delivered next Friday. Other controls on the planning calendar allow you to make the system react to holidays falling on the Friday and shifting the delivery dates accordingly (covered in Chapter 3).

Planning Cycle

You can assign a planning calendar that defines the day on which the material purchase order must be placed. The procedure works similarly to the delivery cycle; however, in this case, you'll create a PO on the established day of the week. So, for example, your weekly orders are placed on Tuesday for Friday delivery with a planned delivery time of three days. Any requirements that are within this planned delivery time are included in the PO created Tuesday.

Creation Profile

The creation profile controls the timing of scheduling agreement delivery releases and transmissions to the vendor. This profile is assigned to the scheduling agreement items. SAP recommends that, if you haven't specified a time in the schedule lines, you should work with aggregation in the creation profile to consolidate lines with the same release date.

Timing control

2.4.3   Maintaining Vendor Master Data

As we discussed in the previous sections, you can have multiple data objects for your business partners: the general view, company code view, and purchasing organization data and its variations. You can create, change, and display master data records for all partner functions. Depending on your company's security policy, several ways to maintain this data are available. You should be able to create the complete vendor master record or partial records, restricted to general and purchasing data sections.

You can access the business partner maintenance using transaction codes that follow the SAP rule of 3sm, where the numbers in the transaction in example XX01 stands for create, XX02 for change, and XX03 for display functions. Or, you can navigate to these transactions using the SAP Easy Access menu paths.

Navigation options

To maintain the general data for your vendor, all you need is the account number. To maintain the company code and related accounting data, you'll also need the company code number. And finally, to maintain purchasing data, you'll have to specify the purchasing organization. Table 2.3 lists the transactions available to maintain the vendor master.

Maintain vendor master

Transaction	Menu Path
XK01: Create Vendor Centrally	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • CENTRAL • CREATE
XK02: Change Vendor Centrally	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • CENTRAL • CHANGE
XK03: Display Vendor Centrally	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • CENTRAL • DISPLAY

Table 2.3 Vendor Master Transaction Codes

Transaction	Menu Path
MK01: Create Vendor Purchasing	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • PURCHASING • CREATE
MK02: Change Vendor Purchasing	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • PURCHASING • CHANGE (CURRENT)
MK03: Display Vendor Purchasing	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • PURCHASING • DISPLAY (CURRENT)

Table 2.3 Vendor Master Transaction Codes (Cont.)

Maintenance   Whenever you create a vendor master record, your company will discontinue, block, or archive another master record. Vendor hierarchies are maintained the same way, requiring you to update validity and add/remove nodes or partners (which we'll cover in more detail in Section 2.5). Usually, a master data group within your business or IT organization is tasked with monitoring and maintaining your business partner records. Additional transactions are available to perform these tasks; the commonly used transaction codes are listed in Table 2.4.

Transaction	Menu Path
XK04: Vendor Changes (Centrally)	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • CENTRAL • CHANGES
XK05: Block Vendor (Centrally)	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • CENTRAL • BLOCK
XK06: Mark Vendor for Deletion (Centrally)	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • CENTRAL • FLAG FOR DELETION
XK07: Change Vendor Account Group	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • CENTRAL • ACCOUNT GROUP CHANGE
XK99: Mass Maintenance, Vendor Master	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • MASS MAINTENANCE

Table 2.4 Additional Vendor Master Maintenance Transactions

Transaction	Menu Path
MK04: Change Vendor (Purchasing)	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • PURCHASING • CHANGES
MK05: Block Vendor (Purchasing)	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • PURCHASING • BLOCK
MK06: Mark Vendor for Deletion (Purchasing)	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • PURCHASING • FLAG FOR DELETION

Table 2.4 Additional Vendor Master Maintenance Transactions (Cont.)

2.5   Vendor Hierarchies

Vendor hierarchies allow you to create flexible objects to reflect the organizational structure of your supplier. For example, if your vendor has a complex sales department, multiple distribution centers, or retail stores, you can build hierarchies to reflect these structures.

You can use vendor hierarchies in purchasing documents to determine   Using hierarchies pricing, including rebates. For each hierarchy node marked as relevant for pricing, you can create a pricing condition record. If one or more nodes in a hierarchy contain pricing data, these nodes are automatically used during purchase order processing. If you add a new vendor to any existing hierarchy, the vendor automatically inherits all pricing agreements that apply to that node.

A vendor hierarchy uses an account called a *node* (in a standard SAP system, you would use account group 0012 to define a node) when the vendor master record is created. A node represents the freely definable level of your supplier organization; it could also represent your vendors' geographical/regional sales office structure or the number of distribution centers that supply your specific ordering plants. You can assign a vendor account (standard account group 0001) to the lowest-level node in your vendor hierarchy. You can then link the lower-level node—called

the *dependent node*—to the higher-level node in the hierarchy. Figure 2.12 shows an example of a multilevel vendor hierarchy.
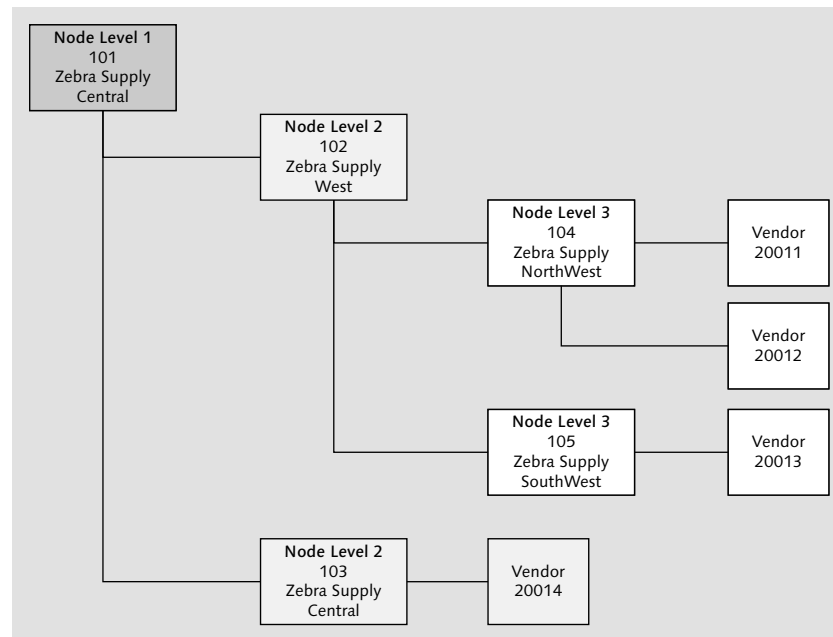
Figure 2.12 Vendor Hierarchy Example

Maintenance

The structure of the vendor hierarchies is flexible and easy to maintain. You can move or change nodes within a hierarchy by moving all related vendor assignments with it, reducing maintenance time. In Table 2.5, you'll find some useful vendor hierarchy maintenance transactions for your reference.

Transaction	Menu Path
MKH1: Maintain Vendor Hierarchy	Logistics • Materials Management • Purchasing • Master Data • Vendor • Hierarchy • Change
MKH2: Display Vendor Hierarchy	Logistics • Materials Management • Purchasing • Master Data • Vendor • Hierarchy • Display

Table 2.5 Vendor Hierarchy Maintenance Transactions

2.6 Source Lists

When your procurement requirements are generated, you want them fulfilled as quickly as possible, and SAP gives you multiple ways to optimize this task. Existing sources are suggested by the system in the predefined sequence:

Fulfill procurement requirements

1. The system looks for a quota arrangement (covered in Section 2.7). If you maintained quotas and the system found a valid entry, the vendor is selected based on the criteria maintained for the quotas.

2. If no quota arrangements are found, the system looks for source list entries, and the appropriate vendor and contract data, if maintained, are used.

3. If the source list records aren't found, the system looks for valid contracts or scheduling agreements (discussed in Chapter 4).

4. Purchasing info records are considered last after all previous checks fail to find a defined and active source of supply. (You'll learn more about purchasing info records in Section 2.8.)

A source list is one of the features used in optimizing Purchasing, as mentioned earlier in Section 2.6, which allows you to define possible sources for products within a set of validity dates. You can maintain multiple allowed sources—vendors—and reference multiple agreements.

Maintain list

Source lists can contain allowed, blocked, and fixed records. Fixed sources take priority within defined a validity period. Blocked source list records are ignored during processing of purchasing documents, and buyers can't use blocked sources manually either. Source list functionality also gives you the ability to activate the MRP indicator to allow SAP to use the source data in materials planning. A source list can be specific to an individual material or can be set globally for all materials in the plant. Figure 2.13 shows an example of a multivendor list showing some of the data combinations described earlier.

Figure 2.13 Maintain Source List Overview Screen

Uses of source lists

Source lists are used in purchase requisition processing during manual or automated source determination procedures. They are also used during purchase order creation, where the source list is checked again if the PO vendor is allowed. As a result, you can limit suppliers to a manageable number and only do business with the most reliable and high-quality vendors.

Source lists can be generated in multiple ways:

▶ Manually using Transaction ME01

▶ From within the purchasing info record using Transaction ME11 or Transaction ME12

▶ From an outline agreement/contract using Transaction MK31N or Transaction MK32; using the mass maintain transaction via the automatic generation transaction

Figure 2.14 shows maintenance screen details.

Also, using the contract create or change transactions, you can create source list entries for additional variations tied to the J4 category:

▶ M: Material unknown

▶ W: Material group

Figure 2.14 Generate Source List: Maintenance View

Maintenance

Let's walk through an example on source list maintenance using Transaction ME01 (Maintain):

1. On the initial screen, specify the material and the plant the records will be maintained for and press ⌐Enter⌐ to continue.

2. On the next screen, maintain the validity periods for the allowed sources of supply and enter the vendor and PURCHASING ORG.

3. Save your source list.

If you have a purchase requisition for an item without a material master but with a material group specified, the system will try to source the item using source list-defined records that reference a contract or info record with the same material group. You can fine-tune this type of source list by maintaining the materials exclusions indicator.

Refer to Table 2.6 for source list transactions and menu paths.

Transaction	Menu Path
ME01: Maintain	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • SOURCE LIST • MAINTAIN
ME03: Display	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • SOURCE LIST • DISPLAY

Table 2.6 Source List Maintenance Transactions

Transaction	Menu Path
ME04: Changes	Logistics • Materials Management • Purchasing • Master Data • Source List • Changes
ME0M: By Material	Logistics • Materials Management • Purchasing • Master Data • Source List • List Displays • By Material
ME05: Generate	Logistics • Materials Management • Purchasing • Master Data • Source List • Follow-On Functions • Generate
ME06: Analyze	Logistics • Materials Management • Purchasing • Master Data • Source List • Follow-On Functions • Analyze
ME07: Delete	Logistics • Materials Management • Purchasing • Master Data • Source List • Follow-On Functions • Delete

Table 2.6 Source List Maintenance Transactions (Cont.)

2.7 Quota Arrangement

Supply source

Quota arrangement allows you to provide a mechanism to determine the source of supply if a requested material needs to be procured from different sources—internal or external—and have set quota values. For example, you need to control a certain material purchases to be split between two vendors A and B, where one will supply 80% and the other 20% of your material requests for a defined total quantity of 1,000 pieces. Using this functionality and the defined quota, the system automatically suggests requisitions to fulfill the quota numbers. The total quantity ordered from vendor A is 800 pcs, and the total quantity ordered from vendor B is 200 pcs. These quotas specify percentages of a total requirement to be procured from the defined sources.

Quota arrangements are common practice when you need to protect the inbound flow of goods and address issues such as uncontrollable price hikes, embargos, geopolitical situations, currency fluctuations, and other disadvantages of using a single source of supply.

To activate the quota arrangement functionality, follow these steps:

Activate

1. Maintain quota arrangement usage in IMG Customizing where you define the quota usage code.

2. Specify which purchasing documents are applicable for quota allocation calculations—from purchase orders, scheduling agreements, planned orders, purchase requisitions, and MRP and production orders, all the way to invoicing.

3. Assign the code defined in IMG Customizing to the material master of an item you're planning to manage using quota arrangements (see Figure 2.15 for an example).
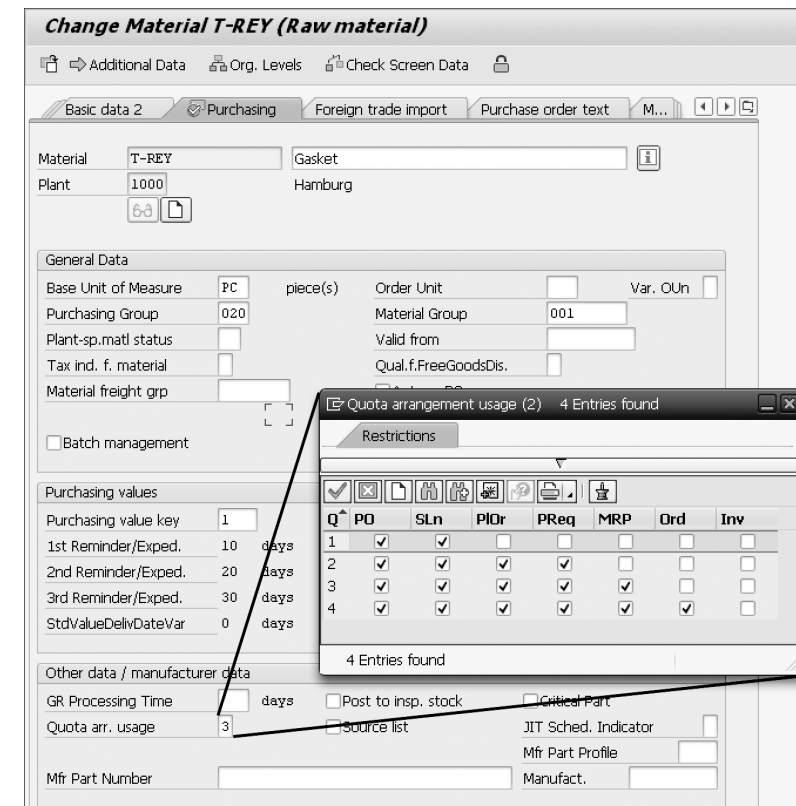
Figure 2.15 Material Master: Assign Quota Arrangement Usage

Maintain

To maintain the quota, run Transaction MEQ1 (Maintain) and follow these steps:

1. On the initial screen, enter the material number and plant the quota is maintained for and press `Enter` to continue.

2. On the next screen, populate the header data. Header-level data includes a validity period; the system stops taking part in sourcing when your requirements date is outside of the defined bracket. You can also define the minimum quantity of your requirement for quota arrangement to be applied during MRP.

3. To maintain line item details, select the line and then click on the Item Overview button or press `F7` on your keyboard.

Quota fields

On the detailed view of the quota arrangement item, you can maintain the following fields (see Figure 2.16 for an example of the item overview screen and fields):

▸ P
The procurement type can be internal or external procurement.

▸ S
A special procurement type allows you to define usage of consignment, subcontracting, and other flavors of procurement types.

▸ Vendor
The suppliers account number works together with the external procurement set for the procurement type.

▸ PPl
The procurement plant used to procure goods works together with the internal procurement set for the procurement type.

▸ PVer
The production version to be used when procuring from the defined source, you'll need to use a different BOM or lot-sizing in repetitive manufacturing.

▸ Quota
The quota number represents a portion of requirements to be supplied from the sources you're maintaining.

Figure 2.16 Maintain Quota Arrangement Overview Screen

▸ In %
Quota in percent shows the Quota column number converted to the percent distribution between sources of supply.

▸ Allocated Qty
The allocated quantity represents the totals of all requisitions, purchase orders, contract release orders, scheduling agreement delivery schedules, and planned orders that have been assigned to a source of supply (provided that these documents are to be taken into account according to the Quota arr. usage indicator in the Purchasing view). The quota-allocated quantity is updated automatically for each order proposal to which a quota arrangement is applied.

▸ Maximum Quantity
The source will no longer be considered after the allocation reaches this value.

▸ Quota Base Qty
This value is treated as an additional quota-allocated quantity. You can use the quota base quantity when you add a new vendor to the mix but don't want all requirements to be assigned to this new source of supply until its quota allocated quantity exceeds the quantity of the existing sources.

▸ Max. Lot Size
You can control the maximum order quantity allocated to a source of

supply during the order proposal. If a requirement exceeds the maximum lot size defined here, several order proposals are suggested equal to the maximum lot size, until the total required quantity is covered.

▸ MIN. LOT SIZE
This value defines a minimum quantity for an order proposal. If a minimum lot size has been entered, and the quantity required is less than the minimum order quantity, the order proposal is generated with a quantity equal to the minimum lot size.

Note

Minimum and maximum lot sizes are considered for autogenerated proposals created during an MRP run, where maximum quantity is also checked during manual purchase requisition and PO creation. If maintained, minimum and/or maximum lot sizes from quota arrangement take precedence over the material master lot size settings.

▸ RPRO
A rounding profile modifies the order proposal to specified purchasing units of delivery, such as rounding to a full pallet quantity, for example.

▸ 1x
The once-only indicator controls how the source is being considered. If checked, this source will be considered only once for matching the amount of the maximum lot size. If the total requirement is larger than the maximum lot size, the remaining quantity will be split among other sources defined in the arrangement.

Other fine-tuning options within quota arrangements allow you to manipulate controls related to period-related releases and the sequencing of splits when proposals are generated. The preceding list covers the most frequently used features and controls quota arrangements offer.

Finally, save your quota arrangement when you complete the data maintenance.

Table 2.7 provides common quota arrangement transactions and menu paths.

Transaction	Menu Path
MEQ1: Maintain	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • QUOTA ARRANGEMENT • MAINTAIN
MEQ3: Display	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • QUOTA ARRANGEMENT • DISPLAY
MEQ4: Changes	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • QUOTA ARRANGEMENT • CHANGES
MEQM: Changes	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • QUOTA ARRANGEMENT • LIST DISPLAYS • BY MATERIAL
MEQ6: Analyze	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • QUOTA ARRANGEMENT • FOLLOW-ON FUNCTIONS • ANALYZE
MEQ7: Delete	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • QUOTA ARRANGEMENT • FOLLOW-ON FUNCTIONS • DELETE
MEQ8: Monitor	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • QUOTA ARRANGEMENT • FOLLOW-ON FUNCTIONS • MONITOR

Table 2.7 Quota Arrangements Maintenance Transactions

2.8 Purchasing Info Records

When you process your purchase requisitions into purchase orders, a certain amount of information is repeated over and over again, such as purchase price, delivery tolerances, planned delivery time, standard order quantity, or confirmation controls. To optimize this process and save time for your users, you can use a reference document such as a contract or a purchasing info record. Reference documents are the most popular data source objects in optimized purchasing.

Purchasing info records allow you to store information such as material, vendor, destination plant that is to receive the goods, price with validity dates, and planned delivery time. Info records can be plant-specific, so each of your facilities using the same vendor and materials can use different data such as price or planned delivery time. Data from the info

Using purchasing info records

records is copied into the purchase order, proposing these predefined values as defaults into the line items.

> **Note**
>
> Info records can be used, not only for materials or services with master records, but also in situations where master records aren't maintained using material group and info record short text describing the item you're purchasing.

Info records have data views that are common for the entire enterprise and views that are specific to the purchasing organization. Let's go over each of the sections in detail because using purchasing info records is the most commonly used method for procurement process optimization.

2.8.1 General Data

The top section of the screen houses the common set of data applicable to the entire organization, and you can define details related to your supplier (see Figure 2.17).

Figure 2.17 Purchasing Info Record: General Data View

In the VENDOR DATA section, you can maintain reminders (or expediters) in which positive values specify days after requested delivery days and negative values specify that reminders will be sent x days prior to the requested delivery date. Messages will be issued and sent to your supplier. You can also maintain the vendor material number and material group. VENDOR SUBRANGE, mentioned earlier in Section 2.4, can be assigned here to provide a link between the material or material group and the subrange defined in the vendor master. You can also maintain your supplier sales contact information here, which might be different from the information on the vendor master.

Vendor data

The PURCHASE ORDER UNIT OF MEASURE section allows you to store the default order unit of measure and conversion rate and to activate the variable purchase order unit.

PO UoM

The ORIGIN DATA section gives you details for foreign trade data such as certificate of origin, country and region of origin, and manufacturer information.

In the SUPPLY OPTION section, you can maintain the validity period for this source or vendor, and you can also mark this record as REGULAR VENDOR, which serves the same purpose as a fixed vendor on source lists we've mentioned earlier in Section 2.6.

2.8.2 Purchasing Organization Data 1

This section is a purchasing organization-specific portion of the info record. Here, you can maintain information either for the entire purchasing organization and make it plant-specific if needed. In the following subsections, we'll discuss the two main sections shown in Figure 2.18.

Control Section

The data in this section is applied during purchase order creation and includes planned delivery time, purchasing group, standard order quantity, minimum order quantity, and maximum quantity. If you maintain rounding profiles with the RNDG PROF. field, your requested quantities

will be converted according the rounding profile rules. For example, an order for less than the pallet requirement is rounded up to a full pallet size order. By selecting the No MText checkbox, you'll choose the purchasing info record's PO text over the material master's purchasing texts during PO creation. If you require your suppliers to send you the acknowledgement of your purchase order receipt, you'll need to select the Ackn. Rqd checkbox. The Conf. Ctrl checkbox allows you to define a default confirmation control for purchase order material. You can preset the required subsequent documents and procedures by choosing, for example, an inbound delivery shipping notification, a simple confirmation, or a rough goods receipt (rough GR).

Figure 2.18 Purchasing Info Record: Purchasing Organization Data 1

You can also assign a tax relevancy in the Tax Code field, which defaults to your PO line. If you manage your inventory using batch management, you can specify minimum remaining shelf life, which is checked at goods receipt posting. During goods receipt, the system also checks data

for overdelivery and underdelivery tolerances that can be preset here in a percentage or an order quantity. If you use blanket POs and want to have open lines for unspecified amounts of overdeliveries over a certain period of time, select the Unlimited overdelivery checkbox. If you choose to do so, the overdelivery tolerance setting will be cleared.

You can also require material to follow the three-way match procedure by selecting the GR-BSD IV (goods receipt invoice verification) checkbox. Some of your vendors may allow for immediate payment upon receipt of goods using evaluated receipt settlement (ERS). If you want certain materials to be excluded from this process and if you require an invoice document to be presented for payment every time you purchase a material, you'll need to check the No ERS flag.

Other invoicing features are set here as well, such as Differential Invoicing (a BAdI-activated enhancement), which makes your material relevant for differential invoicing so you can enter incoming invoices as provisional, differential, or final. Shipping instructions allow you to capture vendor compliance with your shipping instructions at the time of goods receipt and allows you to track and calculate compliance scores in vendor evaluation. If your goods receipt inspection discovers any quality issues with the supplied materials, your supplier may require you to obtain return material authorization before you ship the goods back. You can set the RMA Req. field to match your needs.

Differential invoicing

Conditions

In the Conditions section, you'll maintain basic pricing information and quantity conversion. If you need to maintain scales and multiple validity periods, you can do this in the detailed pricing Conditions table (covered further in Section 2.8.3). Selecting the No Cash Disc. indicator lets the system know that, during purchase order creation, no cash discount is granted for the item. You can also define how the pricing date is established by setting Pr. Date Cat. field to one of the six predefined options ranging from No Control to GR Date. Incoterms can also be maintained here.

Pricing and quantity

2.8.3 Purchasing Organization Data 2

In this simple data section of the purchasing info record, you can maintain the reference document numbers and relevant validity dates for these documents. The two types of reference documents shown in Figure 2.19 include your supplier quotation document number and the last purchase order document number created using the purchasing info record reference and the PO date.

Figure 2.19 Purchasing Info Record: Purchasing Organization Data 2

The pricing CONDITIONS button provides access to detailed maintenance of PO-relevant conditions, including the basic gross price condition PB00. You can use all standard pricing maintenance functions, including validity dates and scales. Figure 2.20 shows an example maintenance screen.

Figure 2.20 Purchasing Info Record: Pricing Condition Maintenance

The TEXTS button takes you to the purchasing texts maintenance part of the purchasing info record transaction. Recall from earlier sections that the MTEXTS field activates the use of purchasing info record texts over material master texts during purchase order creation.

2.8.4 Transactions

Purchasing info records can be generated manually using direct transactions and automatically during maintenance of quotations, contracts, or purchase orders. Purchasing info records can also be updated every time a new goods receipt is posted against the PO. Table 2.8 provides a list of common purchasing info record maintenance transactions and menu paths.

Manual generation

Transaction	Menu Path
ME11: Create Info Record	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • INFO RECORD • CREATE
ME12: Change	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • INFO RECORD • CHANGE
ME13: Display	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • INFO RECORD • DISPLAY
ME14: Changes	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • INFO RECORD • CHANGES
ME15: Flag for Deletion	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • INFO RECORD • FLAG FOR DELETION
MEMASSIN: Mass Maintenance	LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • INFO RECORD • MASS MAINTENANCE

Table 2.8 Purchasing Info Records Maintenance Transaction Codes

2.9 Pricing

Pricing is one of the most important activities in purchasing; you'll have to make sure that the price entered in a purchase order is correct because the purchase document represents a legal bond between your company and your vendors. You'll also have to make sure that all of the costs involved in purchasing a material and bringing it through the dock

doors of your company are considered. These costs include, not only the price of the material you're buying, but also all the shipping, handling, and customs costs. Furthermore, you must include all the taxes to which the material is subject.

Vendors have list prices, special discounts, volume discounts, and also surcharges that may affect the final price of a material. To calculate all discounts and surcharges, SAP ERP uses conditions that are determined based on rules set in IMG Customizing.

Schema   The set of conditions that are valid for pricing are called *pricing schemas* (as shown in Figure 2.21), and they are determined depending on data assigned to the purchasing organization and the vendor: the schema group for vendor and the schema group for purchasing organization.
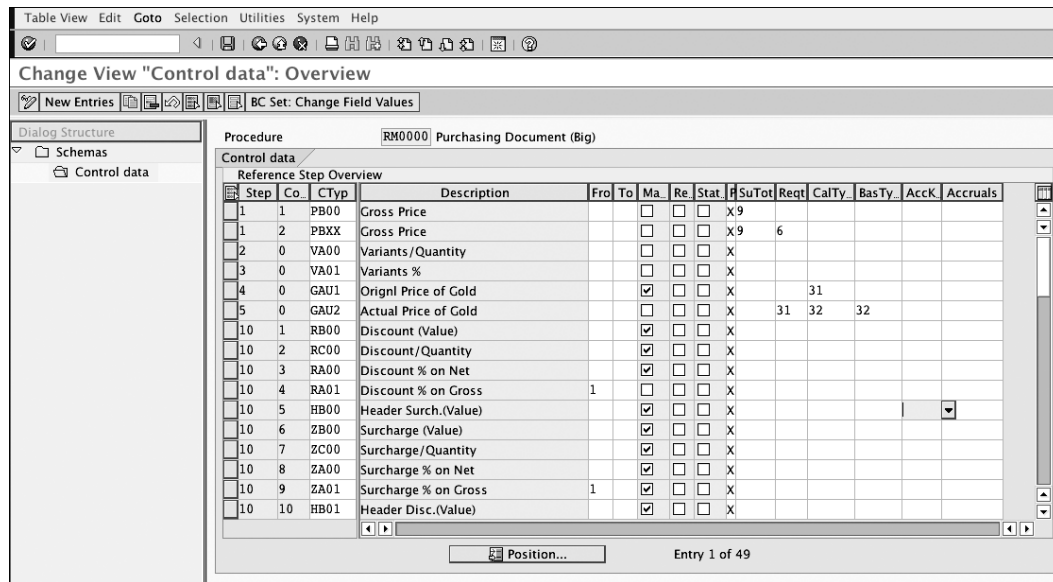
Figure 2.21 Pricing Schemas Contain Pricing Condition Types

The schema group for vendor is assigned in the PURCHASING DATA screen of the vendor master in Transaction MK01 or Transaction MK02 or by following the menu path LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • CREATE. The schema group for the purchasing organization is assigned in the system configuration in IMG

Customizing or by following the menu path: MATERIALS MANAGEMENT • PURCHASING • CONDITIONS • DEFINE PRICE DETERMINATION PROCESS • DETERMINE CALCULATION SCHEMA FOR STANDARD PURCHASE ORDERS.

If you're a functional analyst, then you'll need to configure different pricing schemas that contain different conditions depending on your pricing needs. You'll also need to configure schema groups for vendors and schema groups for purchase organization and then configure the schema determination according to the combination of their values (see Figure 2.22).
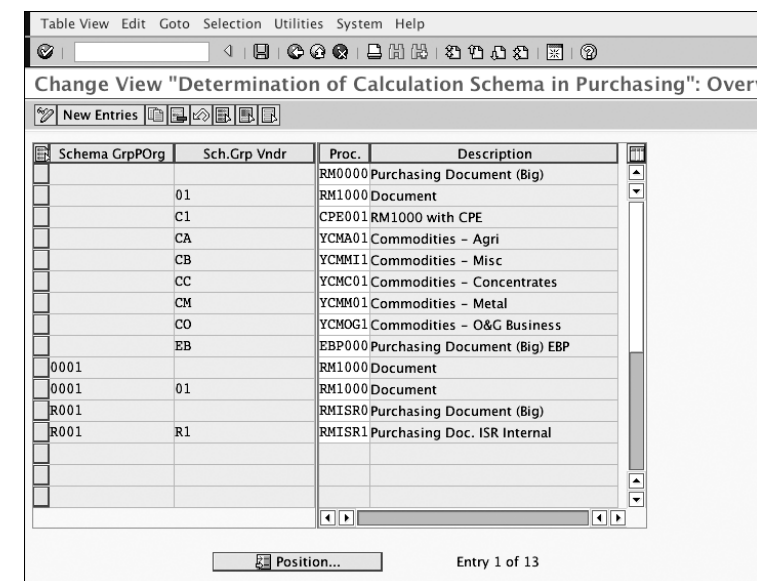
Figure 2.22 Pricing Schema Determination

2.9.1   Using Conditions in Purchasing Documents

After the pricing schemas and their determinations are configured, you can start using those conditions in purchasing documents. Each pricing schema contains header and item conditions, referring to where these conditions can be used. Some conditions can even be set as available for use on both the header and the item levels.

Purchasing info record conditions   The conditions you enter in the purchasing info record are valid only for one material when it's purchased from a specific vendor. To enter

conditions that apply for all the items you buy from a vendor, all the items in a material group, or all the items included in a contract, you can use condition records.

To enter conditions in a purchasing info record, follow these steps:

1. In the PURCHASING ORGANIZATION view of Transaction ME11 or Transaction ME12, enter a price and a price unit.

2. Click on the CONDITIONS button.

3. If you're changing an info record, you'll see a list of validity dates for conditions; select the one that applies to your prices.

4. On the CHANGE GROSS PRICE CONDITION screen (see Figure 2.23), enter new conditions as required. For example, for condition FRB1 for freight value, enter the value in your document's currency and press the `Enter` key.

5. Save your info record.
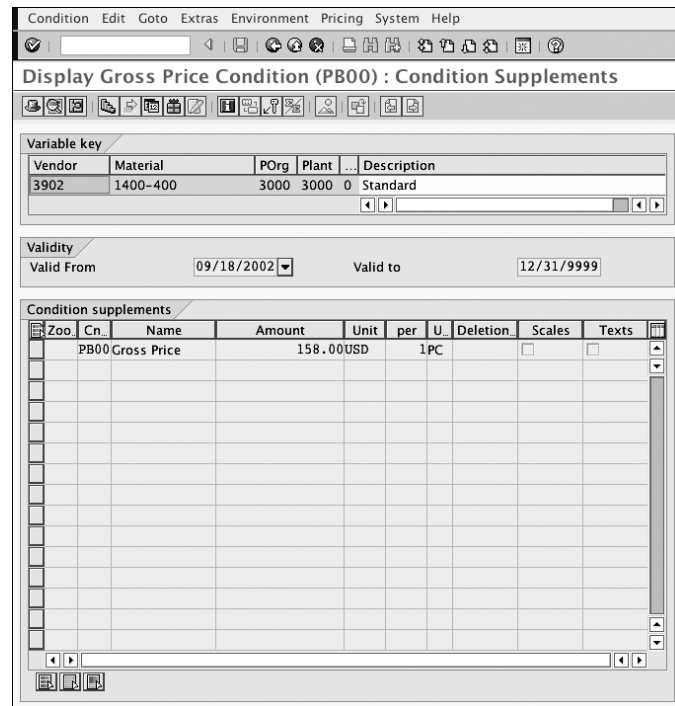
Figure 2.23 Change Gross Price Condition Screen

2.9.2   Condition Records

You can create condition records to make prices appear in purchasing documents. Condition records are master data entries that create a combination of elements called a *condition*. The elements in the condition are set in IMG Customizing, and each of these condition settings is called a *condition type*. In the example shown in Figure 2.24, the condition record will give the company a 13% discount when they buy materials using purchasing organization 3000; for everything the purchasing organization buys from vendor 3902, SCT, INC., the condition record uses condition type RL01.

Display pricing
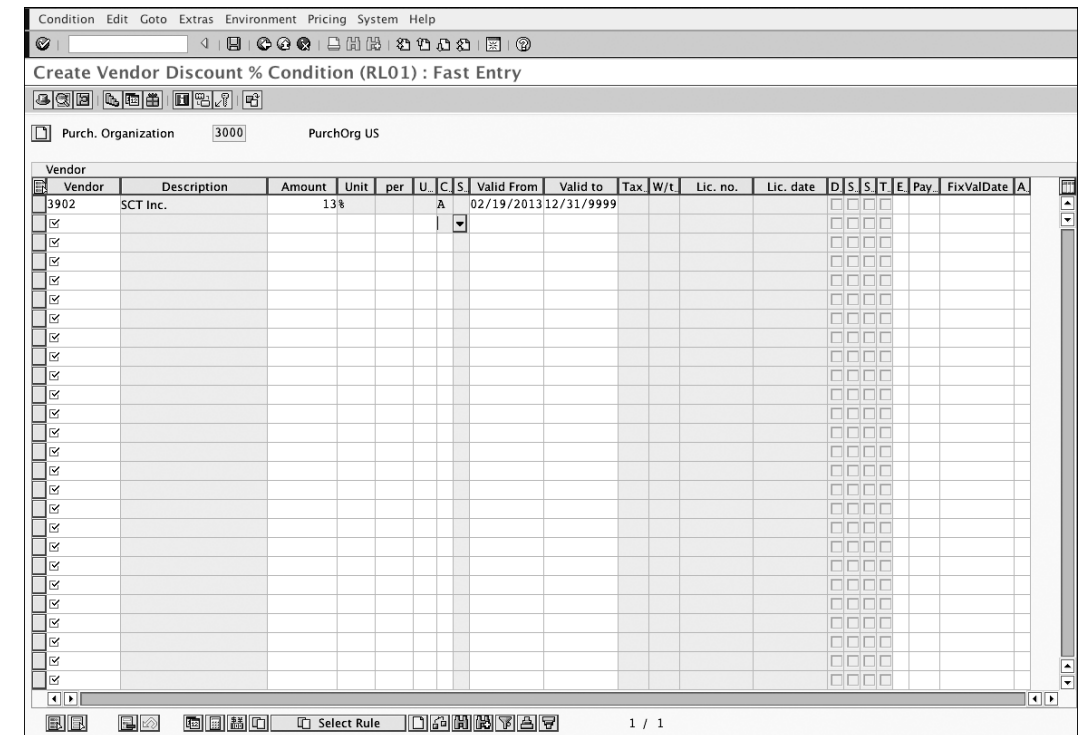
Figure 2.24 Create Vendor Discount Condition

Condition records are created in Transaction MEK1 or by following the menu path: LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER

Condition fulfillment

DATA • CONDITIONS • OTHER • CREATE. To create a new condition record, follow these steps:

1. Choose a condition type, for example, LP00 for an incomplete pallet surcharge.

2. Select a key combination by clicking on the KEY COMBINATION button. These key combinations refer to the combination of field values that will make this condition relevant in a purchasing document. For our example condition type LP00, select VENDOR.

3. Enter the values for all of the fields or elements. The values in these fields are compared to the values in a specific purchasing document or in the purchasing info record. When the values match the ones entered in the condition record, the system considers the condition fulfilled and then includes that condition type in that document. In the LP00 surcharge for a vendor example, enter the vendor number, the amount of the surcharge in the vendor's currency, and the price unit. Also enter the validity period for this condition record and save.

Entering Price Conditions

Two types of conditions are used in a purchasing document: header conditions and item conditions. Item conditions have the individual pricing elements for each line in the purchasing document, and the header conditions include pricing elements that apply to the whole document. The header conditions also include the sum of all the individual item conditions, ultimately calculating the total document (order) value.

To enter price conditions on a purchase order in Transaction ME21N or Transaction ME22N or by following the menu path: LOGISTICS • MATERI-ALS MANAGEMENT • PURCHASING • PURCHASE ORDER • CREATE • VENDOR KNOWN. As shown in Figure 2.25, follow these steps:

1. Enter the material number, the quantity, and the price in the ITEM OVERVIEW section of the PO.

2. In the ITEM detail section, select the CONDITIONS tab.

3. At the bottom, enter new conditions as required. For example, for condition FRB1 for freight value, enter the value in your document's currency and press the `Enter` key.
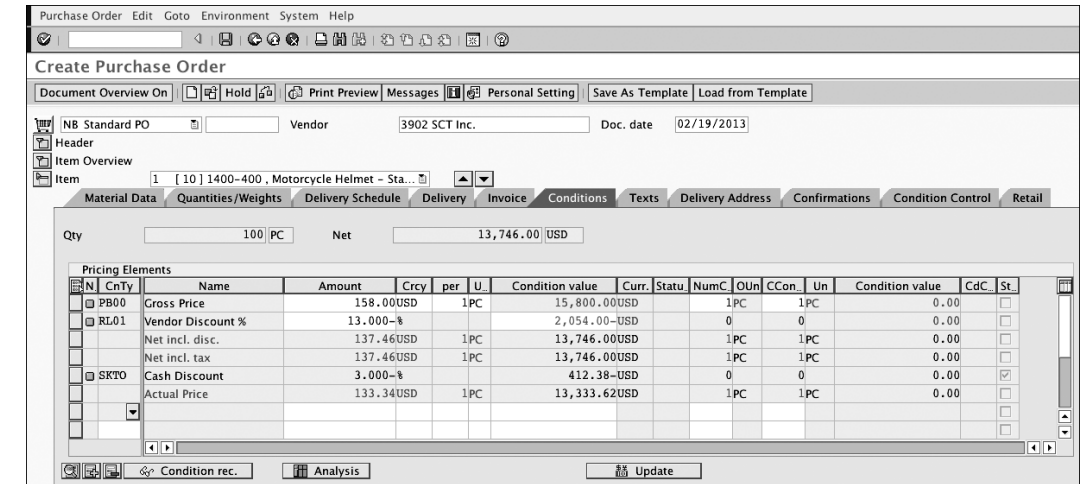
Figure 2.25 Fulfilled Conditions in the Purchasing Document

2.10 Taxes

In the Purchasing subcomponent, you'll have the option to determine taxes in the purchasing documents (purchase orders, purchasing contracts, or scheduling agreements) or not and then to let the follow-up process of invoice verification do the calculation. You can also use the same condition determination described in the previous section for pricing to determine taxes in purchasing documents.

In either case, you must maintain certain data to make your purchases tax relevant. One is a configuration setting for the plant; your system analyst needs to make sure that the right tax indicator is set for the plant or plants for which you're executing the purchases. You can set tax indicator in IMG Customizing by following the menu path: MATERIALS MANAGE-MENT • PURCHASING • TAXES • ASSIGN TAX INDICATORS FOR PLANTS, as shown in Figure 2.26.

Tax master data

To configure taxes, in IMG Customizing, follow the menu path MATERI-ALS MANAGEMENT • PURCHASING • TAXES • SET TAX INDICATOR FOR PLANT to set that plant as relevant for tax determination. Then, set the tax relevance for each vendor and for each material, which is customizable

because not all vendors fall in the same tax category; import vendors may not charge a sales tax, for example. In the same way, some materials may fall into categories that make them tax exempt.
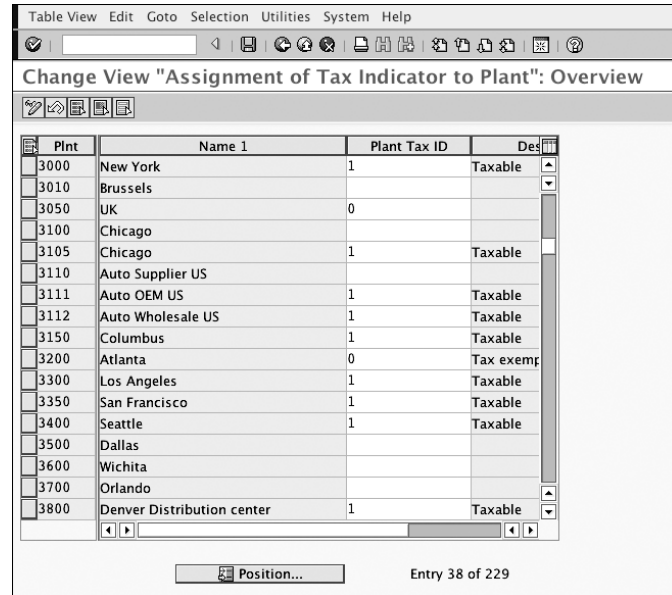
Figure 2.26 Setting the Tax Indicator for Each Plant

2.10.1 Adding Tax Relevance

Tax relevance is determined in the purchasing documents for each line item. When you define that all three elements—plant, vendor, and material—are relevant for some kind of sales tax, then those elements are adopted by the document.

Tax relevance for materials

The tax relevance for each material is set in the material master in the PURCHASING view. You'll need to maintain the TAX IND. F MATERIAL field. This field requires that you previously set the different options in IMG Customizing, which we discussed in Section 2.2.2.

To add tax relevance to a material as shown in Figure 2.27, follow these steps:

1. Use Transaction MM02, or follow the menu path: LOGISTICS • MATERIALS MANAGEMENT • MATERIAL MASTER • CHANGE • IMMEDIATELY. Next, select the PURCHASING view.

2. Enter the plant and purchasing organization for which you're making the change.

3. In the TAX IND. F. MATERIAL field, enter the appropriate value.
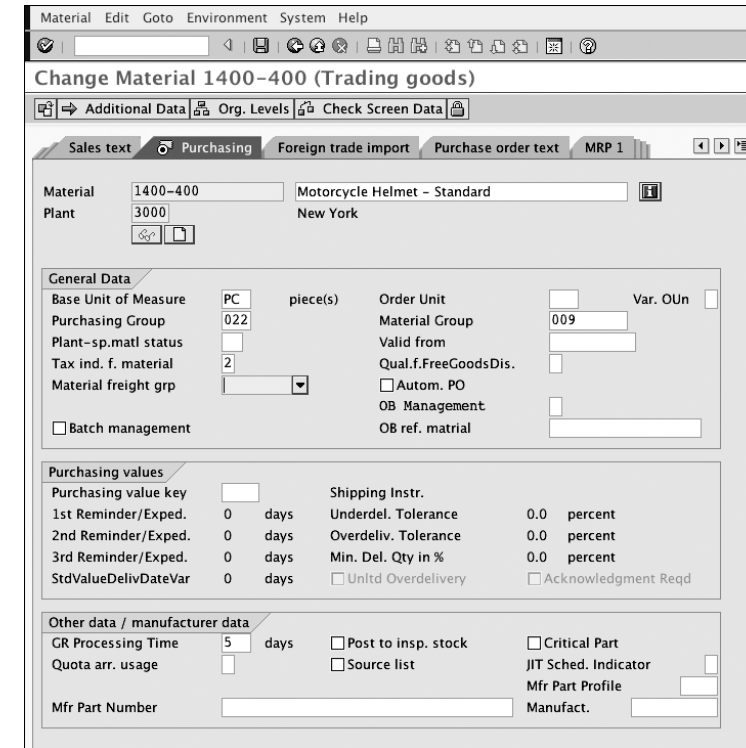
Figure 2.27 Purchasing View of the Material Master

Similarly, the tax relevance for vendors is set in the vendor master in the CONTROL view in the SALES/PUR.TAX field (see Figure 2.28). Selecting this checkbox indicates that this vendor will add a sales tax in its sales invoice.

Tax relevance for vendors
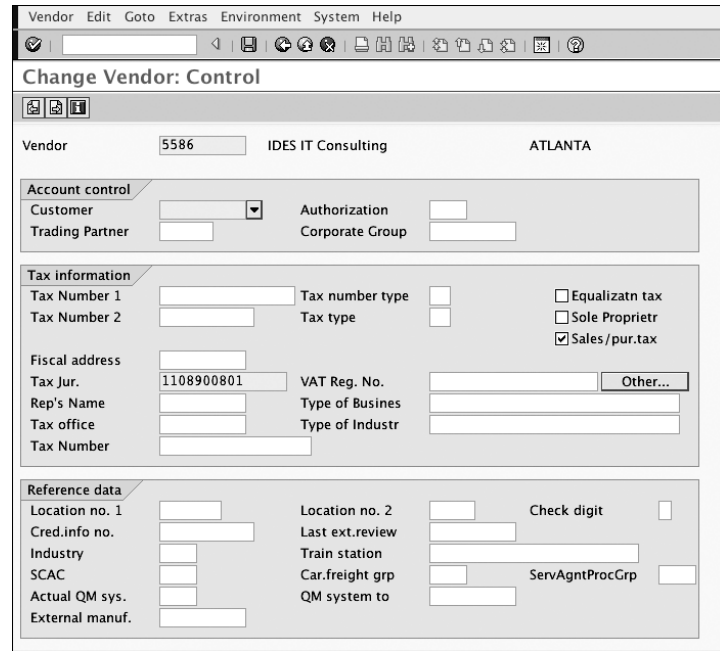
Figure 2.28 Setting the Sales/Purchasing Tax Flag in the Vendor Master

2.10.2 Adding the Tax Code

Additionally, you'll need to enter the appropriate tax code in the purchasing info record. This defaults the correct tax code in the INVOICE tab of the ITEM detail section of a purchase order, for example, as shown in Figure 2.30. Keep in mind that purchasing info records have to be created for each material/vendor/purchasing organization combination.

For vendors

To add tax relevance to a vendor, as shown in Figure 2.29, follow these steps:

1. Use Transaction MK02 or follow the menu path: LOGISTICS • MATERIALS MANAGEMENT • PURCHASING • MASTER DATA • VENDOR • PURCHASING • CHANGE). Select the vendor number and the purchasing organization.

2. Select the CONTROL data view and press Enter.

3. In the TAX INFORMATION section, enter all of the tax-relevant information for the vendor and click SAVE.
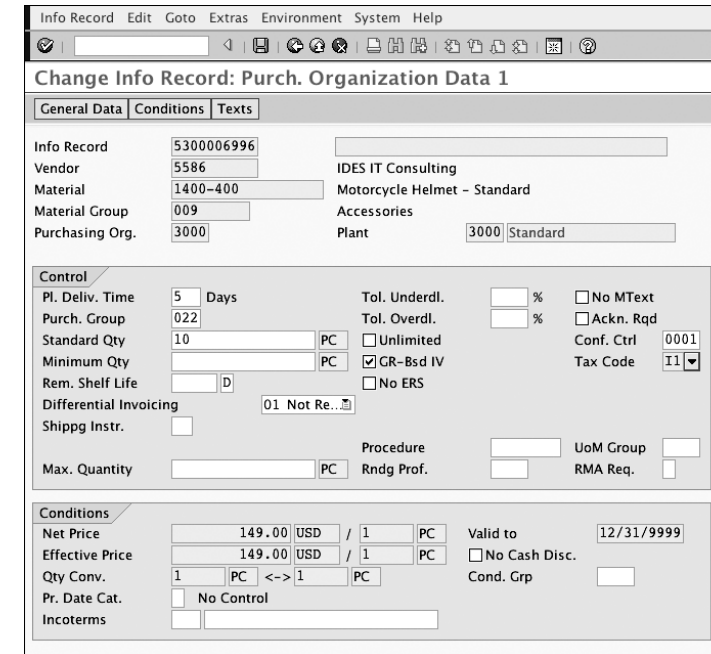
Figure 2.29 Setting the Tax Indicator in the Purchasing Info Record
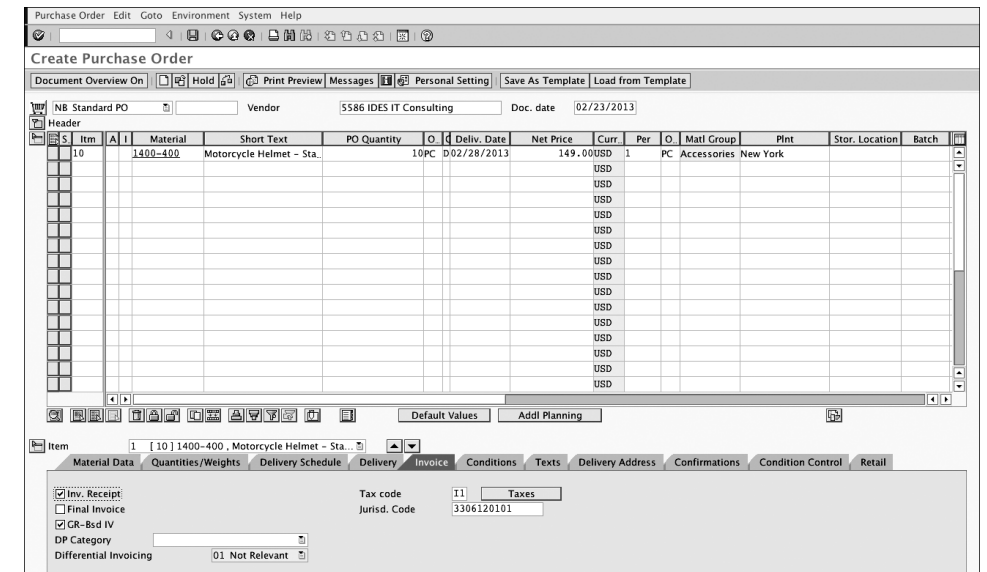
Figure 2.30 Purchasing Documents with the Tax Code from the Info Record

Note

The tax code is set in IMG Customizing by the finance areas, and each tax code can be assigned a different tax percentage, so make sure to consult with your finance department for details about the right code to use.

2.10.3 Creating Condition Records

So far, by using this basic master data, purchasing documents can determine whether items are relevant for taxes, and specific tax codes can be copied from purchasing info records. If you need your purchasing documents to explicitly show the amount for taxes, then you'll need to create condition records for them.

Rules for plants and tax codes
As we explained in Section 2.9, condition records are the set of rules that help determine if an entry in the purchasing document is relevant or complies with that condition. So you can create condition records for imports, condition records for domestic purchases, for different plants, and for different tax codes, as shown in Figure 2.31.

The standard SAP ERP system condition for taxes is called NAVS, and you'll have the option of creating entries based on different combinations of the following key fields: tax indicator for material (Tax ind.), tax indicator for plant (TaxIndPlant), country of origin (Import), destination (Destination Country), and account assignment. A tax percentage and a tax code have to also be entered.

Condition records for taxes are created in Transaction MEK1 or by following the menu path: Logistics • Materials Management • Purchasing • Master Data • Taxes • Create.

Create
To create a new condition record, follow these steps:

1. First, choose the condition type NAVS for non-deductible tax.
2. Select a key combination by clicking on the Key Combination button. A few options are available depending on how your purchases are taxed. Choose the one that applies to your business.
3. Enter the values for all the fields or elements. The values in these fields will be compared to the values from a specific purchasing document,

specifically the material's and plant's tax indicators, and the system will check whether the purchase is domestic or an import.

Figure 2.31 Condition Record for Taxes Based on Country of Destination, Tax Indicator for Material, and Tax Indicator for Plant

4. When the values match the ones entered in the condition record, the system considers the condition fulfilled and then includes that condition type in that document. At this point, the value you enter for the tax percentage you entered in the previous step is brought to the pricing schema of the purchasing document.

5. When the combination of the values of these fields fulfills the condition record, the percentage and tax code are adopted by the purchasing documents and they are added to the total value of the order, as shown in Figure 2.32.

Creating and maintaining pricing conditions
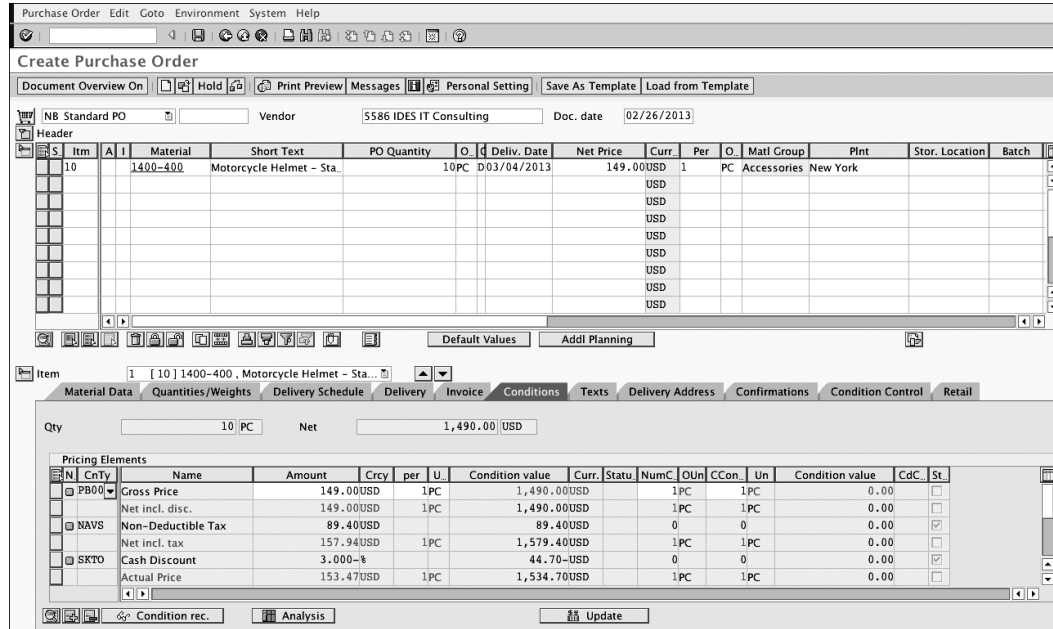
Figure 2.32 Non-Deductible Tax When the Conditions Are Fulfilled

Table 2.9 lists the transactions and menu paths that will help you create and maintain condition records.

Transaction	Menu Path
MEK1: Create Conditions	Logistics • Materials Management • Purchasing • Master Data • Conditions • Other • Create
MEK2: Change	Logistics • Materials Management • Purchasing • Master Data • Conditions • Other • Change
MEK3: Display	Logistics • Materials Management • Purchasing • Master Data • Conditions • Other • Display
MEKE: By Vendor	Logistics • Materials Management • Purchasing • Master Data • Conditions • Discounts/Surcharges • By Vendor
MEKF: By Material Type	Logistics • Materials Management • Purchasing • Master Data • Taxes • Material Type

Table 2.9 Condition Records for Pricing

2.11 Other Master Data

Of the many other complete sets of master data in the SAP ERP system, some interact directly with the Purchasing subcomponent and some don't. Let's discuss routes and batches because they play important roles in some purchasing business scenarios.

2.11.1 Routes

Routes are used in Purchasing primarily in stock transport orders. These types of orders include a Shipping tab in the Item details section, which takes shipping and sales data from the material, the plant, the storage location, and the ship-to address. This information is used to determine a shipping point and a route that are used to create an outbound delivery in the shipping plant.

Other purchasing processes that use a similar determination, and thus routes include returns to vendors with delivery and subcontracting with delivery. These processes also require that your material, plant, and vendor include sales information to determine all of the shipping data, including the route.

Routes are part of the SAP Transportation Management master data objects and include a point of origin, a point of destination, sometimes waypoints in between, and, most importantly, a travel time. These travel times directly affect the purchasing lead times and are included in purchasing documents if an inbound delivery is being used. Longer lead times are also translated into earlier planning of materials, which means that MRP will generate the material requirements while taking into account this information.

Routes are created by the Logistics Execution (LE) or Sales and Distribution (SD) teams, and you'll need to make sure that these teams know about your requirements for shipping between plants and returns or shipping to vendors so that they can also create the routes your process needs.

Stock transport orders

2.11.2 Batches

Some industries, such as pharmaceutical or food, rely completely on batch management to know when their raw materials, semifinished products, and finished products were manufactured; when they expire; and where they've been used in the manufacturing process. Batches also help them know which customers the final products were sold and shipped to.

Batch information is used and kept throughout the entire logistics process. You can buy specific batches when you order raw materials from your vendors, or they can be captured upon receipt in the warehouse. You can determine exactly how much stock you have of any given batch in storage and when the expiration date is. You can also determine if a material can be received into stock based on the manufacturing date and the remaining shelf life.

Batch definition To use batches, you'll need to first configure how batches are defined in the system. You can set the system as the following:

▸ Batch Unique at plant level
  With this setting, the system allows the same batch number for the same material in different plants.

▸ Batch Unique at material level
  With this setting, the system has a unique batch number for a material across plants.

▸ Batch Unique at client level for a material
  With this setting, no two batch numbers will be the same, independent of material and plant.

You can configure batches in IMG Customizing by following the menu path: Logistics General • Batch Management • Specify Batch Level and Activate Status Management.

Then for every material in Transaction MM02 (Logistics • Materials Management • Material Master • Material • Change • Immediately), you'll have to set the Batch management flag in any of the plant-level views of the material master: Sales/Plant Data, Purchasing, or Plant Data/Storage.

2.12 Summary

In this chapter, we covered a range of master data objects that you can use in procurement functions. We identified influential master data objects such as material master, service master, business partners, source lists, quota arrangements, purchasing info records, pricing, taxes, routes, and more. Depending on your procurement processes, you may need to use all or just a few of them, and reading this chapter should help you identify, maintain, and describe the relationship of those data objects to your procurement process with ease.

Based on the information we've covered, you may feel overwhelmed by the volume of master data to maintain, which is why keeping the data clean all the time is important.

Now, together with the information from Chapter 1 that introduced you to the procurement enterprise structure of your company and armed with the wealth of information about master data, we're ready to move on to Chapter 3, where we'll begin dissecting the procurement processes starting with planning and forecasting.

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