A Systematic Approach towards Optimized Purchasing

Applies to:

SAP release 4.6c onwards. For more information, visit the Supplier Relationship Management homepage.

Summary

Purchasers often face inefficiencies in the Procurement cycle due to lack of knowledge in the SAP supplied standard processes. This article explains about how the SAP standard delivery is useful in optimizing the Purchasing Cycle there by increasing the efficiency of the Procurement Process in MM module.

Author: Raghavendra Sai Returi.
Company: IntelliGroup Asia Private Limited.
Created on: 1st June 2010

Author Bio

Raghavendra Sai is a Certified SAP SCM-Procurement Consultant working with IntelliGroup Asia Pvt Limited as a MM Consultant and has thorough understanding of manufacturing sector from the functional point of view and is a regular participant in SCN Forums.
# Table of Contents

Introduction: ........................................................................................................................................... 3

Purchasing Activities: ............................................................................................................................... 3

1. Source Determination: ......................................................................................................................... 4
   1.1: Master Data .................................................................................................................................. 4
       1.1.1 Source List: .............................................................................................................................. 4
       1.1.2 Info Record: ........................................................................................................................... 5
       1.1.3 Outline Agreement: .................................................................................................................. 5
       1.1.4 Quota Arrangement: ................................................................................................................ 5
   1.2 The Process of Source Determination during PR Creation (Assigning Requisitions to sources) ....... 5
       1.2.1 Outline agreement: .................................................................................................................. 5
       1.2.2 Info record .............................................................................................................................. 5
   1.3 Source Determination in the Background: ....................................................................................... 6
   1.4 Assigning Requisitions to Sources/Further Processing ................................................................. 7
       1.4.1 Assignment and Further Processing of Requisitions: Options............................................... 7
       1.4.1.1 Two step procedure (ME56 and ME58) ............................................................................ 7
       1.4.1.2 In a single step: (T Code: ME57) ..................................................................................... 13
2. Automatic Generation of POs from Requisitions ............................................................................. 17
   2.1 Prerequisites .................................................................................................................................. 18
   2.2 Activities ...................................................................................................................................... 18
   2.3 Possible Error Situations and How the System Reacts to Errors .................................................. 20
3 Creating Purchase Orders with Source Determination ...................................................................... 20
4. Optimizing the Order Quantity: .......................................................................................................... 22
   4.1 Prerequisites .................................................................................................................................. 23
   4.2 Static rounding profile .................................................................................................................... 23
   4.3 Quantity addition/subtraction ......................................................................................................... 24
   4.4 Dynamic rounding profile .............................................................................................................. 24
   4.5 Features ....................................................................................................................................... 24

Conclusion: ............................................................................................................................................. 26

Related Content .................................................................................................................................... 27

Disclaimer and Liability Notice ............................................................................................................. 28
Introduction:

Purchasing Department in any Industry which makes the core activity Purchasing and acts as a Via media for Production and Sales departments and see that a balance is maintained between the activities of these two departments. In order to maintain this balance, Purchasing activities need to be planned in such a fashion, that a continuous flow of the required materials are ensured.

In the case of Medium and Large Industries the balancing activity is so complex which includes all the activities and processes starts from finding out from the right source for supplying of the materials and to see that the procured material to reach the required areas.

These complexities can be dealt with the implementation of the ERP like SAP and the Purchasing department can ensure the continuous flow of the materials.

The forth going paragraphs explain how best an optimization of the Purchasing can be achieved through SAP.

Purchasing Activities:

Normally any Purchasing Activity involves with the following few steps.

Creating a Purchase Requisition
Creating a Purchase Order

The user departments will create a Purchase Requisition which then can be used as a reference to create the other documents like Request for Quotation (RFQ), Outline Agreement (OA) or a Purchase Order (PO).

SAP maps these above scenarios with the help of Master Data like Material Master, Vendor Master, Info Record, Source List Etc.

Proper Managing and Maintaining of the above master data coupled with the usage of the SAP supplied processes will leads to an Optimized Purchasing Cycle which will reduce the unnecessary lead times in Procurement of the materials and in finding out the Best Source for the material supply and the allocation of the proportion of the purchase.

The following are the various transaction codes in use to go for the above processes.

ME51N Create Purchase Requisition
ME21N Create Purchase Order.
ME11 Source List Creation
ME01 Info Record creation.
ME31K Outline Agreement Creation
MEQ1 Quota Creation.
ME31L: Schedule Agreement /Schedules Creations.
ME38 Schedule line creation.
ME56, ME57, ME58, ME59N etc.
The below illustration explains you how the purchasing flow can be taken place in SAP for requisitions to get converted to various follow on documents.

Source Determination

Automatic Generation of Pos from requisitions.

Creating Purchase Orders with source determination

Optimized Order quantity.

1. Source Determination:

Source determination will be extremely useful while creating the requirements by the user departments. Normally user departments does not know the correct source of supply, which causes a confusion for the purchasers to which correct source this requisition needs to be assigned for the supply of the materials. However if the source is determined during the creation of the Purchase Requisition stage, which enables Purchasers to send the created documents in time for procurement of the material in time. This can be achieved through the following few steps through maintaining master data like

1.1: Master Data

Source List
Info Record
Outline Agreement
Quota Arrangement

1.1.1 Source List:

A Source List record can be created at the Transaction code ME01: Source List is a SAP master data which describes about the possible sources for a material. Source List facilitates to decide whether the vendor as fixed or blocked and as MRP relevant. If there exists an agreement for the material with a vendor, it can be referenced in the source list.

The below screen shot will shows how to create a source list. Menu Path: Easy Access→Logistics→Materials Management→Purchasing→Master data→Source List→Maintain
1.1.2 Info Record:

It can be created at the Transaction code ME11: Info record is an intermittent record which will provide the information about the Price for the material belongs to a particular plant provided by a Vendor of a particular purchasing organization. Info record contains data at the Plant level and at purchasing organization level. Info record also contains information about Material Data like planned delivery time, Minimum quantity for Order etc and Vendor Data Dunning data etc. The below screen shots explains the info record views and their creation.


1.1.3 Outline Agreement:

Outline Agreement can be created at the Transaction code ME31K. Outline Agreement is a formal agreement between the Vendor and the Plant’s Purchaser Organization for continuous supply of a material for a required quantity over a stipulated period of time for a mutually agreed price.

SAP offers wide variety of features in the Outline Agreement like to maintain various condition types and their scaling etc.

Outline Agreements can be either Contracts or Schedule Agreements Schedule Agreements can be created with a schedule of delivery to the vendor for the continuous supply.

An outline agreement will have views for Header data, and Item Overview.

1.1.4 Quota Arrangement:

Quota Arrangement can be done at transaction code MEQ1 and which decides about the proportion of the requirement to get distributed to various Suppliers for supply, especially when number of suppliers existing.

1.2 The Process of Source Determination during PR Creation (Assigning Requisitions to sources)

SAP standard functionality provides an automated tool in the form of check box in the Purchase Requisition creation screen for finding out the source at the creation of the Purchase Requisition itself which when checked during the requisition creation.

The following objects represent the basic data upon which the source determination process for requisitions and purchase orders depends:

1.2.1 Outline agreement:

Existing outline agreements represent possible sources for a material. If a requisition is assigned to an outline agreement, the system can generate a contract release order or scheduling agreement delivery schedule on the basis of the terms and conditions of the outline agreement.

1.2.2 Info record

If a purchasing info record exists for the requested material, it can also serve as a possible source of supply. The prices and conditions in the info record are suggested when you create a purchase order referencing the assigned requisition.

1.2.3 Plant:

A plant belonging to your firm can also represent a possible source of supply in connection with a purchase requisition. If a plant has been assigned as the source of supply, the requirement is covered by an internal procurement transaction. In this case, a stock transport order (for a stock transfer involving transport over a longer-distance) is created. For further information,
1.2.4 Quota arrangement:

The quota arrangement specifies the portion of the total requirement of a material that is to be assigned to a specific source over a certain period. If quota arrangements exist in the system, they exert an influence in determining precisely which source (perhaps out of several possible ones) is assigned to a purchase requisition.

1.2.5 Source list:

In the source list, you specify which source of supply is valid for a certain period. You can define a preferred source of a material (for example, a vendor) as "fixed". The system will then suggest precisely this source even if other possible sources exist.

The system determines the source of supply of a requested material on the basis of the following factors (in the order shown):

Quota arrangement

The system first determines whether a quota arrangement within whose validity period the delivery date in the requisition falls exists for the material. If a quota arrangement exists, the system determines the vendor from whom the material is to be procured according to the quotas assigned to the vendors and then suggests the source. If no source can be determined this way, the system checks the source list.

Source list

The system determines whether an entry in the source list within whose validity period the delivery date of the requisition falls exists for the material. The source in question may be a fixed vendor or an outline agreement (contract or scheduling agreement). If the source list contains a unique source, the requisition is assigned to that source. If several sources are found, a box appears for selection purposes.

If no source could be determined, the existing outline agreements and info records are examined.

Outline agreement and info record: The system searches for contracts, scheduling agreements, and info records for the material and suggests these. (If info records with more than one purchasing organization exist, all info records of the purchasing organization(s) that is/are responsible for procurement for the requesting plant are also suggested.) If several outline agreements and perhaps info records exist, all possible sources are offered for selection in a box. When an info record is found, the following two additional checks are carried out:

Check of supply region

The system checks whether a certain supply region is specified in the associated vendor master record. If so, the system checks whether the plant in the purchase requisition belongs to this region. If not, the info record is discarded as a possible source.

Check of regular vendor

The system checks whether a regular vendor has been specified for the material (that is, a vendor valid for the entire corporate group, or client). If this is the case, and it has been specified in customizing that the regular vendor takes precedence, the info record for this vendor will be preferred as the source.

1.3 Source Determination in the Background:

If we carry out the source determination process online and the system finds several possible sources, a box appears with the sourcing suggestions. From these, you can choose and assign one source.

If the source determination process is carried out in the background, the system must determine a unique source to enable a purchase order to subsequently be generated automatically.

If several sources are found in the third step, the system gives the outline agreement precedence over the info record in order to arrive at a unique source.

If two outline agreements are found, the system checks whether one of them is with a regular vendor. If so, this agreement is assigned as the unique source. If not, the system does not assign a source at all. The source must then be assigned manually.
1.4 Assigning Requisitions to Sources/Further Processing

This section explains the functions provided by the SAP System for converting requisitions into external purchasing documents (purchase orders, contract release orders, scheduling agreement delivery schedules, RFQs), and the processing options thereby available.

Assigning means defining the desired source for each purchase requisition item

Further processing involves generating lists of requisitions that have been assigned or flagged as outlined above, and the subsequent creation of RFQs, purchase orders, or lines of delivery schedules under scheduling agreements.

Features

The system offers the following functions:

Assign purchase requisitions This involves assigning sources of supply to individual requisition items (Transaction Code ME56)

Further processing of purchase requisitions via the assignment list: This involves the manual creation of purchase orders or delivery schedule lines from a list of requisitions with assigned sources (Transaction Code ME58)

Assign + process purchase requisitions This involves assigning sources to listed purchase requisitions and creating RFQs, POs, and delivery schedule lines. (This function is a combination of "Assign Purchase Requisitions" and "Further Processing of Purchase Requisitions via the Assignment List".) You can also change order quantities and delivery dates.) (Transaction code ME57)

Create purchase orders from requisitions automatically: This involves having the system generate POs automatically from a list of purchase requisitions with assigned sources.

1.4.1 Assignment and Further Processing of Requisitions: Options

The assignment of sources and further processing of purchase requisitions are two distinct functions. We can choose whether wish to perform the functions in two separate steps or in just one step.

1.4.1.1 Two step procedure (ME56 and ME58)

If the two functions are to be performed in separate steps (by two different individuals, for example), use the following menu paths at Easy Access screen

Materials Management→Purchase Requisition→Follow-on functions→Assign (for the first step): Transaction Code:ME56

ME56 Initial Screen:
If the screen is executed:

At this screen if we click the Assign automatically, system will assign the source if there is a unique source, if not it will pop a screen for selection.
After assignment the screen will be:

**Assign Source of Supply to Requisitions**

<table>
<thead>
<tr>
<th>Material</th>
<th>Short Text</th>
<th>Rop</th>
<th>Mat. Grp</th>
</tr>
</thead>
<tbody>
<tr>
<td>1750</td>
<td>est. material for wn -Fab</td>
<td>000</td>
<td>00101</td>
</tr>
<tr>
<td>10014500</td>
<td>00010</td>
<td>101.00 NO</td>
<td>05.05.2010</td>
</tr>
<tr>
<td>W R MB</td>
<td></td>
<td>04.05.2010</td>
<td></td>
</tr>
</tbody>
</table>

**Source Overview for Purchase Requisition 10014500 00010**

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Name</th>
<th>Info/Acct.</th>
<th>Item</th>
<th>Net price</th>
<th>Ccy</th>
<th>Releas Date</th>
<th>POrg</th>
<th>PInf</th>
</tr>
</thead>
<tbody>
<tr>
<td>9999</td>
<td>IDES Lieferant</td>
<td>53000005072</td>
<td>Item</td>
<td>1.000EUR</td>
<td>05.04.2010</td>
<td>1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>Carter A</td>
<td>53000005072</td>
<td>Item</td>
<td>1.000EUR</td>
<td>05.04.2010</td>
<td>1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7777</td>
<td>American Express</td>
<td>53000005080</td>
<td>Item</td>
<td>1.000USD</td>
<td>04.04.2010</td>
<td>1000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Assign Source of Supply to Requisitions**

Second Step:

Materials Management → Purchase Requisition → Follow-on functions → Create purchase order → Via Assignment list (for the second step): Transaction Code: ME58.

Initial Screen of ME58:
If we execute the transaction system will lead the screen to the Process Assignment screen.

Clicking the Process assignment tab leads to the PO.
Then Clicking the enter icon will lead to the PO creation screen ME21N.

A drag and drop of the PR into the PO shopping cart will create the PO and it should be saved and the new PO number is generated.
A Systematic Approach towards Optimized Purchasing
1.4.1.2 In a single step: (T Code: ME57)

If you wish to perform both functions in a single step, choose Purchasing → Purchase Requisition → Follow-on functions → Assign + process: Transaction code: ME57

1.4: Purchase Requisition – Creating Purchase Orders (Single-Screen Transaction)

This section describes how you convert requisitions to which a source of supply has already been assigned into purchase orders.

The following steps are necessary to convert purchase requisitions to purchase orders:

Assigning means defining the desired source for each purchase requisition item.

Further processing involves generating lists of assigned/flagged requisitions and then creating the corresponding purchase orders.

Prerequisites

A source of supply is assigned to the requisitions you wish to convert into purchase orders.

You can convert requisitions into purchase orders as follows:

Source assignment and further processing of purchase requisitions

This involves assigning requisitions (from a list) to sources and then creating purchase orders. (This function is a combination of "assigning purchase requisitions" and "further processing of requisitions via assignment list".)

Procedure

If it is to perform both functions in a single step, choose Purchase Requisition → Follow-On Functions → Assign + Process. ---Transaction code ME57

On the selection screen, enter the criteria for selecting the requisitions to be processed and choose 🔄. Select the desired purchase requisition. To assign a source, choose either Assign Automatically or Assign Manually.

Choose 📚 Assignments, to access the Assignment Overview screen.

To create purchase orders, position the cursor on the desired line and choose Process Assignment.

In the following window, enter the necessary data (for example, order type) and choose ✅.

The screen for creating the purchase orders will come and the PO creation will be the drag and drop of the PR to create the PO in the shopping cart.

The below screen shots will better explain the process of creating the purchase orders from purchase requisitions.

ME57 Initial screen:
After providing the inputs the screen will be:

Assign and Process Purchase Requisitions

<table>
<thead>
<tr>
<th>Material</th>
<th>Short Text</th>
<th>PSp</th>
<th>Mat. Grp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Req_1</td>
<td>Item</td>
<td>Qty</td>
<td>Un. Deliv.</td>
</tr>
<tr>
<td>100-100</td>
<td>Casing</td>
<td>000</td>
<td>001</td>
</tr>
<tr>
<td>10013481</td>
<td>00010</td>
<td>10</td>
<td>PC</td>
</tr>
<tr>
<td>11 R</td>
<td>NB</td>
<td>24.07.2008</td>
<td>101</td>
</tr>
</tbody>
</table>

After assigning source automatically by clicking the icon ‘Assign automatically’ the screen will become processed.
Further Processing of Purchase Requisitions (Conversion into POs)

The open requisitions are displayed in the document overview for the purchase order (single-screen transaction). Transaction Code: ME21N

Select one or more requisitions that you wish to process and either choose or drag them onto the shopping cart symbol (\(\square\)) to convert them into a purchase order.

If you have set up the document overview appropriately, you can now display data such as the requisition item, the material, and the requested quantity there.

Check the data and make any necessary changes. Then choose to save the purchase order.

Result

The document overview shows the purchase orders generated based upon the selection criteria. When the selected requisitions are converted into purchase orders, you are automatically returned to the function with which you started assigning or processing requisitions.

If you order only part of the total quantity, the requisition is shown as an open requisition until such time as the entire requested quantity has been ordered or until the requisition is shown as Closed on the Delivery Schedule tab page of the purchase order. Click the Requisition Closed column for the desired schedule line. The symbol shows that the associated requisition is closed.

You can also select the closed indicator on the Quantities/Dates tab page in the item details when changing the purchase requisition.

The below screen shots will better explain the above said process:

At ME57 assign screen a vendor will be assigned and selecting the item and Clicking the icon

Screen will be lead to
Then select the line item which is assigned with vendor and clicking the icon will lead to the screen and Clicking the enter icon will lead to the screen ME21N screen.

Before the Purchase Requisition is dragged into the shopping.
After the Purchase Requisition is dragged and dropped into:

Saving of the screen leads to creation of the PO.

2. Automatic Generation of POs from Requisitions

The SAP System can automatically convert requisitions that have been assigned to sources into purchase orders. This function can either be performed online or in the background.

During conversion, the system attempts to consolidate as many requisition items as possible to form one purchase order. Usually, one PO whose contents can be regarded as belonging together is created for each purchasing organization, vendor, and contract.

When processing in the background, by making the appropriate pre-settings you can ensure that items from different purchase requisitions are consolidated to form a single purchase order (e.g. one purchase order per vendor and receiving plant in each case).

If the system is unable to complete the source determination and further processing functions for all items (e.g. due to missing data or the absence of unique sources), it generates a list of unprocessed items for you to process manually.

Recommendation

Automatic processing is recommended when we have a well-maintained system in which it is likely that the majority of requisition items can be converted into follow-on documents without manual intervention. Preconditions for successful automatic processing are a) sources are available for all items and b) the system can identify just one source for the requested materials or services out of several possible ones (e.g. on the basis of source list entries, designation of "regular vendors", and use of quota arrangements).

If there exists a few sources in the system, manual processing is advisable.
2.1 Prerequisites

The system selects only those requisitions for automatic PO generation for which the indicator Automatic purchase order has been set for both the material and the vendor.

It can only generate purchase orders from requisitions to which a unique source of supply has already been assigned.

2.2 Activities

If there exists purchase requisitions with assigned sources in the system to generate purchase orders from these requisitions automatically, we need to proceed as follows:

Choose MM→Purchasing→Purchase Requisition →Follow-on functions → Create purchase order → automatically. Via requisitions. The initial screen appears. (Transaction Code ME59N)

In the upper part of the screen, we need to enter organizational selection criteria (for example, the responsible purchasing group and the plant). In the lower part of the screen, we need to enter the criteria for the selection of requisitions (for example, a number interval, a certain material or a date interval for requisitions released within this period).

### Automatic Creation of Purchase Orders from Requisitions

<table>
<thead>
<tr>
<th>Purchasing Group</th>
<th>000</th>
<th>to</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Purch. Organization</td>
<td></td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>Fixed Vendor</td>
<td></td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>Contract</td>
<td></td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>Plant</td>
<td>000</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>Receiving Storage Location</td>
<td></td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>Supplying Plant</td>
<td></td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>Issuing Storage Loc.</td>
<td></td>
<td>to</td>
<td></td>
</tr>
</tbody>
</table>

In the middle part of the screen, we need to specify the cases in which a separate purchase order is to be created for a requisition item. (If requisitions for different plants are not to be included in the same purchase order, for example.)

If necessary, set the indicator Omit faulty items.

We can also perform the function as a test. To do so, need to set the Test run indicator. You can then see, for example, how many purchase orders are generated from the list of requisitions.

Set the indicator Detailed log if you wish to perform and log the function in the background. The log shows which purchase orders have been generated, and which of them are faulty. It also provides detailed information on the error source for each faulty requisition item.

(If you perform the function online, you can obtain detailed information on faulty items by double-clicking on the relevant line.)
Invoke the function via – Program  Execute, – Program  Execute + print, or Execute in background. If we execute the program in the background, we will get a dialog box in which we must specify and save the print parameters before the function is started.
2.3 Possible Error Situations and How the System Reacts to Errors

This section discusses possible error situations and the way the system reacts to them.

A requisition item cannot be converted into a purchase order in the following circumstances:

- If the master data is faulty or incomplete
  Example: The vendor is locked or the current purchase order price is not available.
- If input data is missing (for example, unknown account assignment)

Omit Faulty Items

If it is specified that faulty items are to be omitted, and if there exists a requisition containing ten items, one of which is faulty, the system generates one PO with nine items. The PO can be transmitted (perhaps automatically) to the vendor. The error is logged and the faulty item must be reprocessed at later. The advantage for this method is Minimal reprocessing effort.

Do Not Omit Faulty Items

If you have specified that faulty items are not to be omitted, the system will not create a purchase order at all.

Advantages:

Requisition items that logically belong together remain together in the PO. (Purchase order 1 has two items: item 1 for a PC, item 2 for PC software.) Minimum order values per PO are better taken into account. This will have a decreased communication effort with the vendor.

Disadvantage:

Greater reprocessing effort. You have to reprocess all ten items.

Manual Reprocessing

All requisitions for which the system was unable to generate POs (because the vendor was blocked in the source list after the requisition was created, or because no price exists for the material, for instance) are listed in a log. We must reprocess these requisitions before you can convert them into POs.

3 Creating Purchase Orders with Source Determination

For certain situations, due to urgency, there may not be a Purchase Requisition created in the system rather to go for a Purchase Order directly and the procurement process is to begin directly with a purchase order. This could be the case, for example, if the requirement was notified to Purchasing by 'phone and the buyer wishes to create a PO immediately, even though he does not yet know which vendor is to receive it. For such cases SAP has given the option of using the source determination facility.

As in requisition processing, the system suggests possible sources of supply for material on the basis of existing quota arrangements, source list records, outline agreements, and/or info records.
3.1 Activities

To create a PO with source determination the process is as follows:

At easy access Choose MM→Purchasing→Purchase order →Create → Vendor unknown: Transaction code: ME25

The initial screen appears.

Enter the key of the purchasing group on this screen. Select the Source determination field if the source is to be determined automatically and assigned to a PO item after entry of the latter. Click ENTER to display the item overview screen.

Enter the item data for the requested materials. You can also adopt items from an existing requisition by choosing Purchase order →Copy requisition.

If you did not select the field for automatic source determination on the initial screen, select the items to which a source is to be assigned. Then choose Edit →Assign supply source.

The system lists the possible sources for the material. If only one vendor exists for an item, the vendor is assigned to the item automatically. We can determine which vendor has been assigned to an item by displaying the item details.

If more than one possible source exists for an item, a dialog box with a list of possible sources appears. We can either choose the desired source, or close the box if none of the sources is suitable.

Price simulation: We can determine a certain source’s net or effective price by running a price simulation for one of the suggested sources.

Position the cursor on the desired source in the dialog box and choose Price simulation. A second box appears, in which you enter the simulation data. Clicks ENTER to display the conditions for the source.

Select the items for which you want to generate purchase orders. Then choose Edit →Generate purchase order. If no suitable source currently exists for an item, we can save the latter as a requisition item so that already entered data is not lost. Select the items to be saved in this way, and then choose Purchase order →save as requisition.

We can also save items that cannot be converted into PO items (because they are subject to a release procedure, for instance) as purchase requisition items.

If the selected items are to be procured from more than one vendor, an overview of the vendors is displayed for selection purposes. Position the cursor on a vendor and click on Choose to generate the purchase order.

The system consolidates the items for the selected vendor and generates a purchase order. The system then issues an appropriate message.
4. Optimizing the Order Quantity:

This function can be used to round off order quantities in POs and contract release orders. Order Quantity Optimisation will lead to the optimal utilisation of the transportation capacities with the vendor when negotiated with the vendor. For example in order quantity optimizing, the PO quantity is rounded up or down according to rules defined in Customizing. Different units of measure can be taken into account during this rounding process.

The following are the various rounding profiles we can use for the purpose of order quantity optimizing:

- Static rounding profile
- Quantity addition/subtraction
- Dynamic rounding profile
4.1 Prerequisites

The following settings are necessary for the individual procedures (in Customizing and in the master data for Purchasing):

4.2 Static rounding profile

- Create a rounding profile in Customizing Materials Management → Purchasing → Order Optimizing → Units of Measure and Allowed Logistics Units of Measure → Maintain Rounding Profile.

**Rounding Profile:**

<table>
<thead>
<tr>
<th>Rounding Profile</th>
<th>Plant</th>
</tr>
</thead>
<tbody>
<tr>
<td>0001</td>
<td>Tekton Plant</td>
</tr>
</tbody>
</table>

- Enter this rounding profile either in the purchasing info record (Purchasing Organization Data view) or in the material master record (MRPview).
Assignment of Rounding Profile to Material:

Create Material 1686 (Trading goods)

4.3 Quantity addition/subtraction

- Create a rounding profile in Customizing for Purchasing in the path provided.
- Enter this rounding profile either in the purchasing info record or in the material master record.

4.4 Dynamic rounding profile

- Create a rounding profile in Customizing for Purchasing and maintain unit of measure groups and unit of measure rounding rules (Order Optimizing → Units of Measure and Allowed Logistics Units of Measure).
- Enter this rounding profile either in the purchasing info record or in the material master record.
  
  Set the indicator for the variable unit of measure in the info record or in the material master record so that, if necessary, the system can take a different unit of measure into account when rounding.
- Maintain the unit of measure group in the purchasing info record if other units are to be taken into account during the rounding process.
- Maintain the alternative units of measure in the material master record (Additional data).

4.5 Features

Order quantity optimizing provides the following rounding options:

<table>
<thead>
<tr>
<th>Rounding profile</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static rounding profile</td>
<td>Rounding up without adjustment of unit of measure</td>
</tr>
<tr>
<td>Quantity addition/subtraction</td>
<td>Percentage additions and subtractions without adjustment of unit of measure</td>
</tr>
<tr>
<td>Dynamic rounding profile</td>
<td>Rounding up or down, taking other units of measure into account where necessary (e.g. &quot;carton&quot; instead of &quot;piece&quot; or &quot;each&quot;)</td>
</tr>
</tbody>
</table>
If we enter a minimum order quantity in the purchasing info record, the PO quantity will be rounded up to the desired minimum quantity after evaluation of the rounding profile where appropriate.

Restrictions
Scheduling agreements will only allow static rounding profiles. We must enter the rounding profiles in the scheduling agreement and with a source list record flagged as MRP relevant with automatic schedule line generation for the scheduling agreement.

The rounding of scheduling agreement schedule lines takes place when we carry out a planning run for your independent requirements. To avoid overdelivery, the last schedule line in the scheduling agreement is not taken into account in the rounding.

Note that scheduled quantities are not rounded if we enter schedule lines manually. Rather the system automatically adjusts the order quantity.
Conclusion:

Buyers most often face the situation of allocating huge volumes of requirements to various sources. Which requires high quality of analyzed data over various sources and about their credibility of supply and face lack of time in finding out the correct source.

Effective utilization of SAP standard functionality processes for the Optimization which are discussed above will tremendously reduces the stress, to identify a correct source which will make not to miss the lead times of supply, Quantity, and Quality of the purchasing requirements, enables the core operation of an Industry called Purchasing to be effective towards the Optimization of Resources, time and effort for making a Balance of Bride between the other core activities like Sales and Manufacturing.
Related Content

SAP help on Optimizing the Order Quantity
http://help.sap.com/erp2005_ehp_04/helpdata/EN/67/c50d38c5a5c82ee10000009b38f842/frameset.htm

For more information, visit the Supplier Relationship Management homepage
Disclaimer and Liability Notice

This document may discuss sample coding or other information that does not include SAP official interfaces and therefore is not supported by SAP. Changes made based on this information are not supported and can be overwritten during an upgrade.

SAP will not be held liable for any damages caused by using or misusing the information, code or methods suggested in this document, and anyone using these methods does so at his/her own risk.

SAP offers no guarantees and assumes no responsibility or liability of any type with respect to the content of this technical article or code sample, including any liability resulting from incompatibility between the content within this document and the materials and services offered by SAP. You agree that you will not hold, or seek to hold, SAP responsible or liable with respect to the content of this document.