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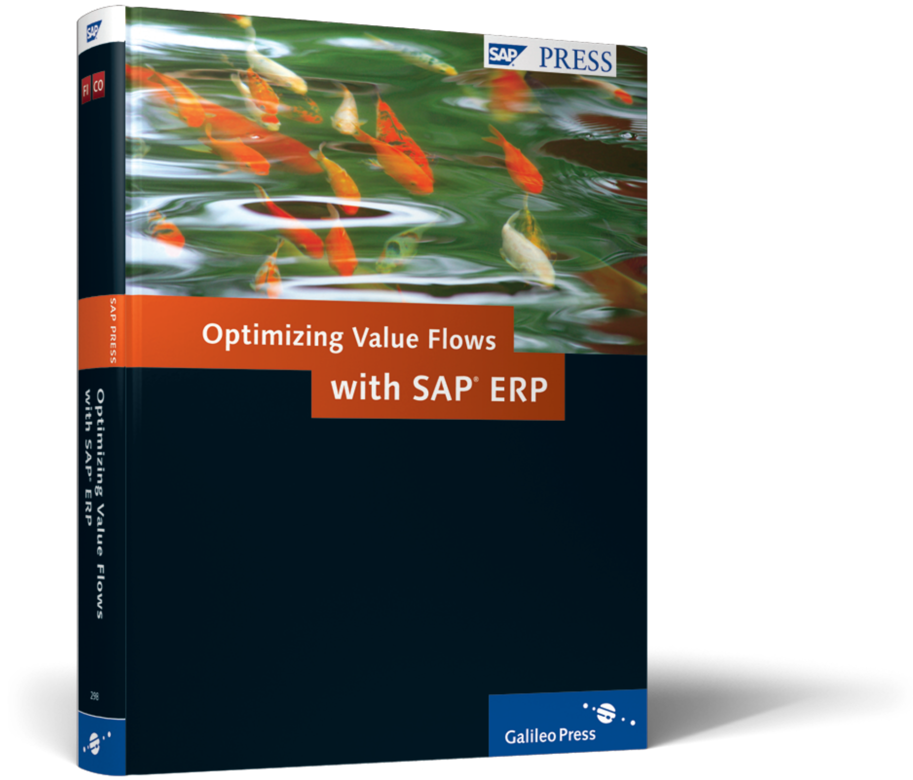
Optimizing Value Flows with SAP® ERP



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Contents at a Glance

Contents

Three critical processes run in an enterprise. This chapter analyzes the first important process, the purchasing process. You should not underestimate its significance, because the products you generate can only be as good as the materials you purchase.

4 Procurement Process

The focus of business value added is usually on production, which requires various input factors such as material and labor. From the logistics perspective, the procurement process should provide the correct input factors in the correct quality and quantity at the correct location at the correct time. Although the tasks of procurement can be summarized in a plain and simple sentence, it comprises numerous aspects. This chapter discusses the different aspects of the procurement process as well as the related effects on the enterprise's value flows.

First, it describes how the procurement process is integrated with the operational performance. In this context, the extended SCOR model plays a significant role. Afterward, you learn how to statistically update and trace commitments in cost accounting during the procurement process to allow for early budget controlling. Additionally, this chapter focuses on account determination from Materials Management (MM account determination) because this considerably affects the interface between logistics and accounting. The descriptions on the goods receipt and invoice receipt then lay the foundation for discussing "genuine" value flows.

The explanations on mapping and further processing the resulting payables in accounting conclude the integration with logistics. Usually, the payables are what are called *payables for goods and services* (PGS). An outlook on the closing process rounds off this chapter.

We will now take a look at the steps and different design options in the procurement process. For this purpose, the adapted SCOR model from Chapter 2, Section 2.2.2 is used again as an example.

4.1 Procurement Process in the SCOR Model

SCOR model

Within the SCOR model the "purchasing" part (source) that comprises the ordering process and warehouse management is also the part that includes the procurement process. Depending on the production approach, the SCOR model differentiates between three basic procurement process types (see Figure 4.1).

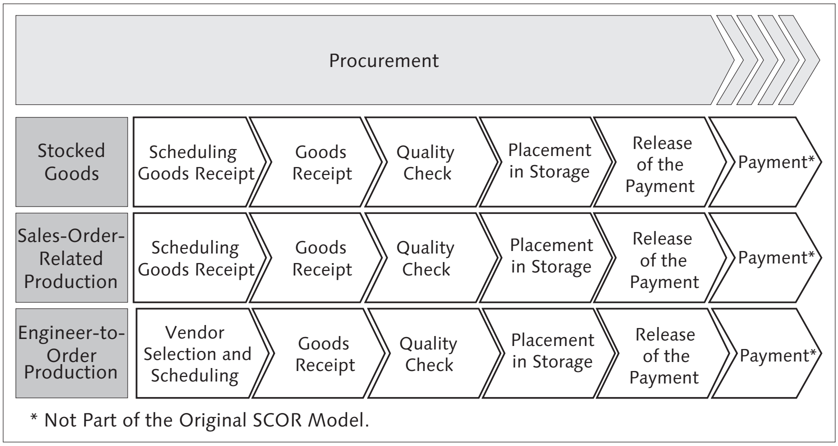

Figure 4.1 Procurement Process in the Adapted SCOR Model

As you can see, we added the payment process to the standard model (see Figure 2.5 in Chapter 2, Section 2.2.2, SCOR Model). Regarding logistics, it would be sufficient to consider the process complete after the payment for the invoice has been released. However, because this book focuses on the value flow, it is supposed to guide you through the complete flow, that is, up to paying the vendor invoice.

Process types in the SCOR model

In addition to this aspect, Figure 4.1 shows that the SCOR model differentiates between three procurement process types, which depend on the organization of the production:

- Procurement for make-to-stock production
- Procurement for sales-order-related production
- Procurement for projected sales-order-related production

Vendor selection

It is apparent that the three process types only differ in the first module. For make-to-stock production and sales-order-related production, the purchasing department is responsible for scheduling the goods receipt in the continuous process. For project production, this also includes the task of selecting the vendor, which also needs to be done for the first two process types. The difference is that selecting the vendor is only necessary for make-to-stock and sales-order-related production if new or modified products are used. For continuous replenishment orders, the purchasing department usually collaborates with known vendors with whom outline agreements may have been worked out.

For us, it is not relevant if and to which extent the purchasing department has to select the corresponding vendors for individual ordering processes because this does not generate value flows. It is also not important what kind of event has triggered the purchase requisition: reaching a minimum amount of raw materials in stock, a sales order, or the completion of project planning. From the perspective of accounting and cost accounting, this is not a transaction you can express in values.

However, the process type affects the procedure in cost accounting. This involves the question of which objects are used to assign the accounts for purchase orders, goods receipt, and invoice receipt. For more information, refer to Section 4.3.2, Purchase Order.

Reducing budgets for purchase orders

You already know that vendor selection is not relevant for the value flow. You can take adequate measures in cost accounting only if a purchase requisition or a purchase order is being created. You can now account the open purchase requisitions to possible existing budgets to be able to identify overruns at an early stage.

Goods receipt

In most cases, the *goods receipt* is the first event you have to include in the financial statement. Here, you must post a receipt in stock or, for goods that are not subject to inventory management, an expense. From the logistics view, the goods receipt consists of several substeps. After you have received the goods, you have to check the quality of the procured goods or repack them until they can be stored. From the accounting and cost accounting view, only the process of entering the stock in the system is relevant because it results in Financial Accounting and Controlling postings.

Invoice receipt

In an SAP system, you usually do not post the goods receipt to payables but to the goods receipt/invoice receipt account (GR/IR account). Received invoices are also posted to this account. This means that it serves as a buffer between the two processes (goods receipt and invoice receipt) and consequently enables you to separate the flow of goods from the value flow. This also provides additional benefits, which are discussed in detail in Section 4.8, GR/IR Account. It is not until the vendor invoice is received and posted that the open item is created in accounts payable accounting. Depending on the specific case, you must additionally post currency differences or other deviations.

Outgoing payments

The open item is usually cleared within a payment run. From the accounting perspective, this is the last operation of the value flow in the procurement process.

Creation of values

The different stages of the procurement process may lead to values in Financial Accounting and Controlling. Figure 4.2 provides an overview of the possible documents.

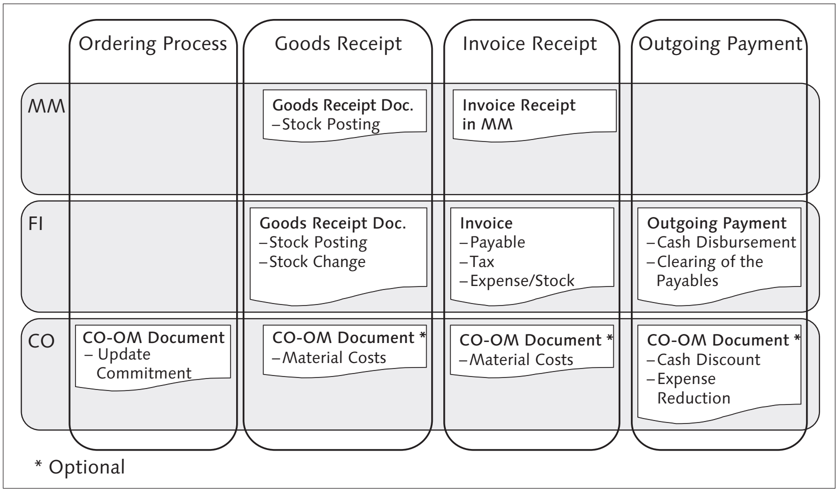

Figure 4.2 Value Flow of the Procurement Process

The updates of commitments within the ordering process takes on a special role in Figure 4.2. Here, in contrast to all other processes, only statistic values and no actual values are updated.

Before discussing the details of the procurement process, we will take a look at the involved master data. First, there is the material master. Because it is not only critical in procurement but also in production and sales and distribution, it was already described in Chapter 3, Section 3.4.3, Material Master. The use of the vendor master, which is detailed in the following section, is usually restricted to the procurement process. It is indispensable for both logistics and accounting.

4.2 Vendor Master as an Integrative Element

To meet the different requirements of the purchasing department and accounts payable accounting, the SAP system splits up the vendor master into three parts:

- General part
- Accounting view
- Purchasing data

General part

For every vendor for which the system should map business relationships, at least the general part must be created. This part stores all information that is relevant and clear for both the purchasing department and accounting. Here, you can find the vendor number, the name and address of the vendor, the corresponding tax information as well as all bank details. The benefit is that you have to maintain the bank details only once, even if the vendor exists in several company codes.

Accounting view

In the accounting view, you maintain all data based on the company code. The example of the reconciliation account clearly illustrates the benefit of this procedure.

"Reconciliation account" example

The reconciliation account is the link between accounts payable accounting and general ledger accounting. In general ledger accounting, it maps the payables. As soon as a posting is made for a vendor, the posting is also implemented on the reconciliation account in general ledger accounting (see Figure 4.3).

In the example, an invoice of EUR 1,190.00 shipment costs (gross) from vendor 90100 is received. To generate a posting to the vendor account, a reconciliation account must to be defined in the vendor master to ensure integration with the general ledger. In this case, account 160000 is specified in the vendor master. If you now specify the vendor number when entering the incoming invoice, the system generates a posting item of EUR 1,190.00 on the vendor account and on reconciliation account 160000. For an offsetting account assignment to the input tax account and freight account, the document in the general ledger balances to zero. In accounts payable accounting, only the open item for vendor 90100 in the amount of EUR 1,190.00 is shown.

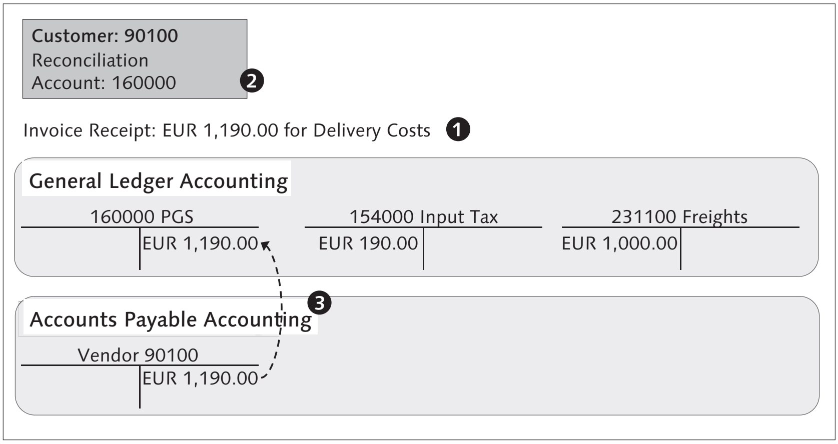

Figure 4.3 Posting Techniques for Reconciliation Accounts

Mapping of payables

A typical structuring for the mapping of payables in general ledger accounting is the following:

- Payables for goods and services, third-parties, domestic
- Payables for goods and services, third-parties, foreign
- Payables for goods and services, affiliated enterprises, domestic
- Payables for goods and services, affiliated enterprises, foreign

[Ex]

Mapping Payables in the Reconciliation Account of Lederwaren-Manufaktur Mannheim

Let us take our sample enterprise Lederwaren-Manufaktur Mannheim as an example and assume that all required ostrich leather is procured exclusively from one wholesaler in Frankfurt, Germany. The purchasing department has a decentralized organization; that is, each of the producing plants (Mannheim, Milan, and Brussels) has created the German wholesaler as a vendor.

For the German plants, the vendor is a domestic vendor; for all other plants, it is a foreign vendor. Whereas the German plant defines account 160000 (domestic vendor payables) in the vendor master, account 161000 (foreign vendor payables) must be specified for Belgium, France, and Italy.

Because you maintain the reconciliation account separately for each company code, this differentiation can be made without any problem. Additional accounting view data includes the terms of payment and the payment method. The accounting *terms of payment* are only relevant if the vendor invoice is directly entered in accounting and not via the MM component.

In the SAP world, *payment methods* are the different methods you can use to pay—for example, check or bank transfer—and you can assign more than one payment method to a vendor. This is useful, for example, if you want to pay large invoices via check and all invoices up to EUR 10,000.00 via bank transfer.

Payment methods

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Check Function for Duplicated Invoices or Credit Memos

The accounting view of the vendor master also contains an indicator you can use to have the system check for invoices or credit memos that have been entered twice. If the indicator is set, the SAP system checks whether the document already exists when you enter an invoice or credit memo. It assumes that the document has been entered twice if fields such as the external document number, vendor, and amount correspond to the fields of an already existing document.

If this is the case, the system outputs a message to inform the user of the risk of a duplicate entry. You can customize this message using Transaction OBA5, for example. However, it should be an informational message and not an error message and should only inform the user of the risk of a duplicate entry and not prohibit entering the invoice.

If you want to use this system support, you have to define the CHECK FOR DUPLICATE INVOICE indicator as a mandatory field in the Customizing of the vendor master.

Purchasing data

The *purchasing data* of the vendor stores all information that you require for a smooth purchasing process but that does not affect the accounting processes. Here, you maintain the purchase order currency and the term of payment, for example, that are should be used for purchase orders for this vendor by default.

Required views

For vendors that are only required in accounting but for which no purchase order is entered in the system, you only have to create the *general* and the *accounting view*. Examples include employees to which travel expenses were paid via bank transfer. You also do not have to provide an accounting view for vendors that are required for the purchasing process but not for accounting. This includes, for example, potential vendors from which you request a quotation but for which no purchase order is generated. Of course, the purchasing department does not obtain a quotation for its own sake. Usually, a requirement is determined within the enterprise, for example, in production, in materials planning, or in stock. When the purchasing department receives the requirement, the ordering process starts.

4.3 Purchase Order as the Basis of the Procurement Process

In the context of the ordering process, this section focuses on two documents: purchase requisition and purchase order.

4.3.1 Purchase Requisition

You can transfer the requirements either manually without system support or, particularly if the SAP system works with MRP procedures, automatically. In the SAP world, the document that triggers the purchase order later on is called *purchase requisition*. Depending on the method of how the purchasing department is informed about a requirement, a purchase requisition can be entered directly; that is, manually, or indirectly; that is, via another SAP component.

A purchase requisition already contains all of the necessary information for the purchasing department. First, it defines a requisitioner. For every item, it also specifies the purchase order quantity and, preferably, the material number. Alternatively, a material group can be maintained.

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Material Group

A *material group* is a grouping of materials for which no material may exist. You can derive the account assignment from the material group; that is, it supports automated processing.

A purchase requisition is an internal document. It is a request to the purchasing department to procure a material or service. After its release, you can fulfill a purchase requisition with a purchase order or an outline agreement.

Determining the source of supply

You may have to determine a *source of supply* before creating a purchase order. Here, the SAP system also supports the purchaser: You can create requests and enter the quotation afterward as well as access existing purchase orders and conditions in the system. By comparing the different quotations in the SAP system, you can determine the best vendor and then create the purchase order.

4.3.2 Purchase Order

Header data of the purchase order

Like many other documents in the SAP system, a purchase order consists of a header that is supplemented with individual items. Except for the stock transfer order, all purchase orders are sent to a vendor. The respective vendor number is entered in the purchase order header. As a result, the system proposes various values from the vendor master, as follows:

- Ordering address, invoice address, and delivery address
- Terms of payment
- Incoterms (terms of freight)

Purchase order item—item category

More interesting than the header information are the purchase order items. Their behavior—as well as the required information for each item—is controlled by what is called an *item category*. The type and attributes of the item category determine critical definitions (see Figure 4.4).

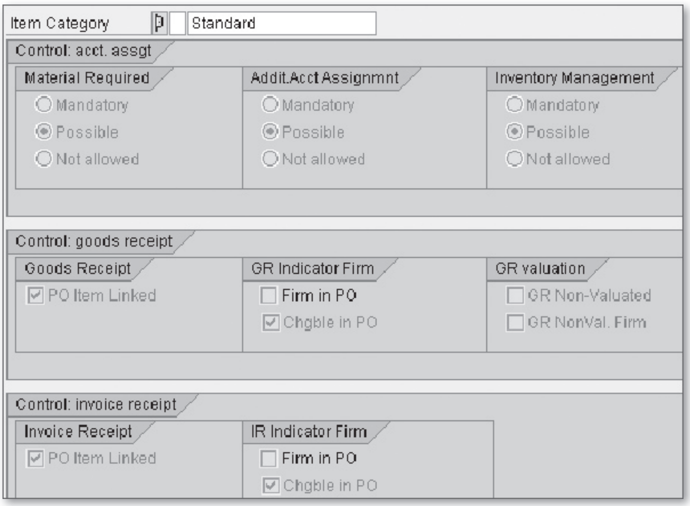

Figure 4.4 Item Category Definitions

Account assignment

First of all, you have to define whether the corresponding purchase order item allows for, enforces, or prohibits specifying a material number or additional account assignments (see Material Required field group in Figure 4.4). For materials, you can additionally select whether inventory management is possible (Inventory Management field group). This defines whether the material is stock material for which you may want to know at a later stage whether and how much material is in stock.

Goods receipt

Here, you can also specify critical definitions for the goods receipt. You can define whether goods receipt is expected and whether this setting can be changed in the purchase order maintenance. You can also determine whether the goods receipt is non-valuated and also whether this setting can be changed (Control: goods receipt field group). For example, for vendor consignments, if the goods receipt is non-valuated, the invoiced value of goods is directly indicated as an expense (and not as stock) in the financial statement.

Invoice receipt

The item category also states whether an invoice is expected and whether this invoice is binding. You can also determine whether this setting can be changed in the purchase order (CONTROL:INVOICE RECEIPT field group).

You cannot configure item categories; that is, you cannot create new or modify existing categories. The only option you have is to assign an external item category (a category that is visible to the user) to the internal item category of the SAP system. Table 4.1 contains a list of the most important item categories.

Item Category		Description	Usage
Int.	Ext.		
0		Standard purchase order	▸ Externally procured goods ▸ GR and IR possible
1	B	Limit purchase order	▸ Definition of a max. value ▸ Neither quantity nor delivery data is defined ▸ IR is mandatory
2	K	Consignment order	▸ Material required ▸ Procurement based on consignment ▸ GR is mandatory
3	L	Subcontracting	▸ Ordering finished products at vendors ▸ Non-valuated GR is mandatory
4	S	Third-party	▸ Purchase order triggered by enterprise, delivery to customer ▸ No GR, but IR mandatory
7	U	Stock transfer	▸ Initiating a stock transfer from plant to plant

Table 4.1 Item Categories with Descriptions

Purchase order item—purchasing info record

A purchaser must also specify the agreed price of the purchase order item. This process can be automated using *purchasing info records*. These records link vendors and materials, and its critical elements are the purchase order and price conditions. A purchasing info record always refers to only one vendor and one material. This enables you to maintain different purchase prices for a material for each vendor. The purchasing info record is additionally characterized by its high level of integration within the SAP system. You can also use it for product cost controlling, for example.

Material group

Because material numbers are not always available, the *material group* is very useful and serves various purposes in materials management. In the basic view, a material group is assigned to a material master; the material group serves to combine materials with similar properties. In reporting, you can then carry out evaluations according to these material groups.

For the integrated value flow, however, the fact that you do not have to enter a material master in the purchase order if you specify a material group in the purchase order item is much more interesting. This option is useful for low-value consumption goods (such as coffee for the employee break room) for which no material master exists.

When the purchaser creates a purchase order without material, he must generally decide to which expense account the purchase order item should be assigned. Using material groups is the solution because they can be linked to MM account determination, which allows for automated assignment of G/L accounts. This means that the purchaser does not have to determine the account manually, a process that often leads to posting errors.

Risk of Incorrect Account Assignments with Manual Input [!]

If the system does not automatically determine the G/L account, the risk of an incorrect account assignment increases considerably! The reason is that you cannot reduce the G/L accounts the system lists for selection.

Purchase order with account assignment

Purchase orders with a material master record in the purchase order items that are not delivered to stock but directly provided for consumption are referred to as *purchase orders with account assignment*. Here, an account assignment category that requires the specification of a respective account assignment for the item is assigned to a purchase order item.

Account assignment categories

The following are the most important *account assignment categories* in a purchase order:

- Internal order
- Cost center

- Project
- Asset
- Production order
- Sales order
- Customer individual stock

The account assignment categories for *internal orders, cost centers, projects, production orders, sales orders*, and *sales order stock* are not unique; they require the specification of the respective account assignment object. This object must exist and be valid when the purchase order is entered. Here, the common rules for the use of Controlling account assignments apply. This means that you can define only one genuine account assignment object.

Asset account assignment category

To assign an account to an *asset*, you need a main asset number and an asset subnumber. This is the problem with this category: The asset number must be available even before the asset is available. There are two solutions to this problem:

- Access via a dummy asset
- The purchaser/creator of the purchase requisition creates the asset

Access via "asset under construction"

When using the access via a dummy asset, you usually work with an *asset under construction* (AuC) with line item settlement to which all asset acquisitions are assigned. Using an AuC has the advantage that line items posted to this asset can be settled individually to a capitalized asset or to an expense account.

Access via capitalized assets

Alternatively, you can also directly use a *capitalized asset* for account assignment. For new acquisitions, this also means that the purchasing department is allowed to create capitalized assets. However, when creating a capitalized asset, you must make decisions regarding the mapping in the financial statement, for example, on the asset class and consequently on the account assignment and on depreciation parameters. If you decide to use this account assignment variant for assets, you should ensure that your employees are able to create the assets properly, for example, by providing training and the corresponding documentation.

You can also have the purchasing department request a new asset number from the asset accounting department in these cases. The asset accounting department would then have the corresponding competence to make a decision about the correct assignment of the asset, create a number, and forward the number to the purchasing department. However, this variant may require time-consuming internal communication, which can be a problem.

When using purchase requisitions, you should create the asset when creating the purchase requisition and not when issuing the purchase order. This way, you reach the highest level of integration. This also means that the creator of the purchase requisition must already possess the know-how to create the asset properly.

Prohibiting the item category

Because these two solutions for the account assignment of assets can lead to specific problems, you can consider prohibiting this account assignment category as a third solution.

Technically, you can easily implement this constraint by simply not providing this category. This is possible because Customizing defines for each order type which account assignment categories are allowed and which are not allowed. You can find this setting in the Implementation Guide under MATERIALS MANAGEMENT • PURCHASING • PURCHASE ORDER • DEFINE DOCUMENT TYPES. If you want to use this variant, post the invoice receipt to a clearing account. Then, the asset accounting department must make manual transfer postings for the values from the clearing account to an asset.

Further definitions in the account assignment category

In addition to the decision of which account assignments can or must be transferred, you can make further decisions under DEFINE DOCUMENT TYPES. Figure 4.5 shows an example.

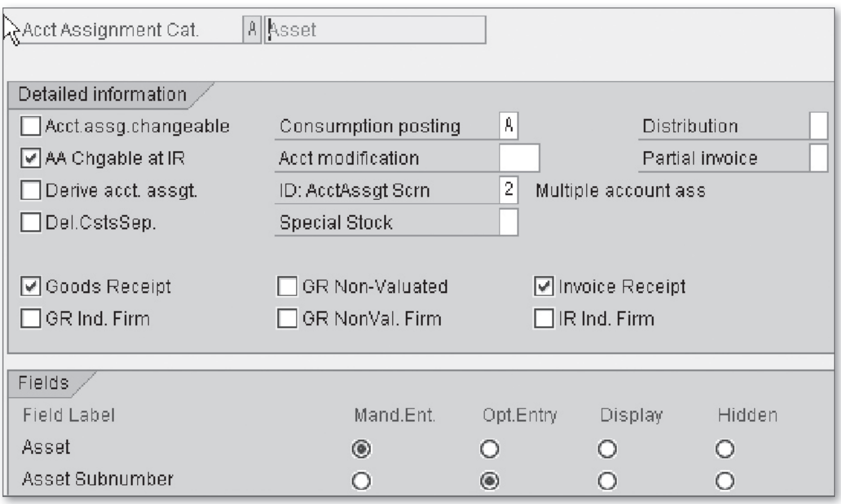

Figure 4.5 Account Assignment Category Definitions

Here, you can see the Customizing for the ASSET account assignment category to which you can also navigate via Transaction OME9 (CHANGE ACCOUNT ASSIGNMENT CATEGORY).

As for the item category, here, you also define whether and what type of goods and invoice receipt is required for the account assignment category. Sections 4.6, Goods Receipt, and Section 4.7, Invoice Verification, describe the corresponding effects of these definitions in more detail. Goods receipt and invoice receipt are the first events in the procurement process that affect Financial Accounting.

Budget monitoring

From the cost accounting perspective, however, it would be negligent to start monitoring the budget only when the invoice has been received. If you determine at this stage that a *budget* has been exceeded, it is too late to take action. Ideally, you therefore start monitoring the budget when you create the purchase requisition or, at the latest, when you create the purchase order. As you could already see in Figure 4.2, the Controlling document for the commitment update is the only document that is already generated when the purchase requisition and purchase order are created.

4.4 Updating Commitments

Commitment

The SAP system provides a *Commitments Management* function. A *commitment* is understood as a scheduled (purchase requisition) or contractual (purchase order) commitment that will result in costs. Costs can be incurred in the form of goods or invoice receipt. This means commitments are prebooked sales that you can check against approved budgets.

Activating Commitments Management

Although you can also integrate *commitment updates* with the general ledger, asset accounting, and funds management, Commitments Management in Controlling is frequently used. You activate this function at the controlling area level (see Figure 4.6).

You can navigate to the Controlling area maintenance using Transaction OKKP. The activation of the COMMITMENTS MANAGEMENT component enables you to manage commitments for cost centers and internal orders. You can also initiate that commitments are updated to sales orders in Transaction OKKP by selecting the W. COMMIT. MGT (With Commitment Management) checkbox in the SALES ORDERS section. These options indicate that commitments can only be updated for purchase orders with account assignment.

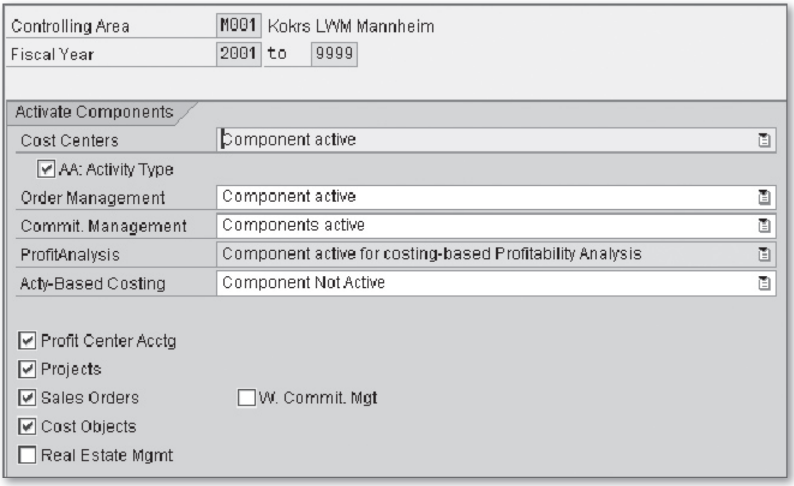

Figure 4.6 Commitments Management Activation

In addition, you have to configure commitment updates for order types and cost center categories.

Commitment update for order types

For internal orders, you can enable these updates by selecting the W. Commit. Mgt checkbox in the individual order types. To do so, you can use Transaction KOT2_OPA. When the checkbox is selected, this definition immediately applies to all orders of this order type that exist in the system. This is also indicated in the master record of the order in the Control data field group. Figure 4.7 displays an example.

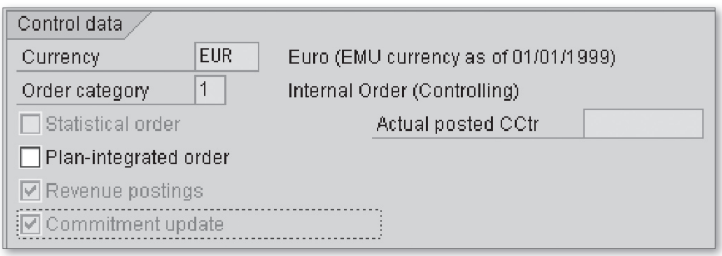

Figure 4.7 Order Master for Enabled Commitments Management

Commitment update for cost centers

The logic for cost centers is different. Here, the Commitment block indicator is set for all cost center categories for which *no* commitment update is desired. Commitments are updated for all cost center categories for which this indicator is not set. Figure 4.8 displays the specifications for the two cost center categories 4 (Administration) and 5 (Management). For cost center category 4, commitments should be updated; for category 5, they should not be updated.

Cost center categories										
CCtC	Name	Qty	ActPri	ActSec	ActRev	PlnPri	PlnSec	PlnRev	Cmmt	Func
4	Administration	☐	☐	☐	☑	☐	☐	☑	☐	OC-ADM
5	Management	☑	☐	☐	☑	☐	☐	☑	☑	OC-ADM

Figure 4.8 Blocking Commitment Updates for Cost Center Categories

You can implement the commitment update settings for the cost center categories in the Implementation Guide under Controlling • Cost Center Accounting • Master Data • Cost Centers • Define Cost Center Categories.

However, because these settings for the cost center categories are only default values for the creation of master data, you can also individually modify Commitments Management in the respective cost center master when creating a new cost center (see Figure 4.9).

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No Effect on Existing Cost Centers

Keep in mind that changes to the Customizing of the cost center category do not affect existing cost centers. Therefore, the SAP system behavior for cost centers differs from the behavior for internal orders.

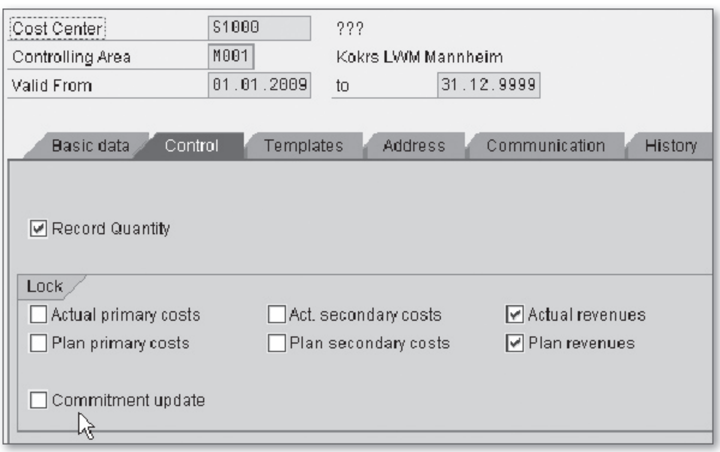


Figure 4.9 Changing the Commitment Update Settings in the Cost Center Master

Reducing commitments

You can reduce commitments in two alternative ways:

- Reduction based on values of the goods receipt
- Reduction based on values of the invoice receipt

Here, the system behavior depends on whether a valuated goods receipt exists. If the goods receipt is valuated, the corresponding goods receipt data is used. and prices are taken from the purchase order.

If there is no goods receipt or if it is non-valuated, the commitment is reduced upon invoice receipt.

[!]

Defining a G/L Account as the Cost Element

To generate commitments, the G/L account to which the purchase order is assigned must be defined as the cost type when the goods or invoices are received.

"Commitment calculation" example

Let's take a look at a budgeted order of Lederwaren-Manufaktur Mannheim and the ordering and budget reduction process. A budget of EUR 1,200,000.00 was assigned to marketing order 400237. A purchase requisition and—based on this—a purchase order with an amount of EUR 5,850.00 were created. Figure 4.10 illustrates the flow and the previous use of the budget.

Orders: Actual/Plan/Commitments   Date: 05.04.2009 23:40:49   Page: 2 / 4

Order/Group   400237   Re-Launch Kelly Bag 1
Reporting period   1 - 12 2009

Cost elements	Actual	Commitment	Assigned	Plan	Available
478000 Marketing Costs	1.170,00	4.680,00	5.850,00	1.200.000,00	1.194.150,00
* Costs	1.170,00	4.680,00	5.850,00	1.200.000,00	1.194.150,00
** Balance	1.170,00	4.680,00	5.850,00	1.200.000,00	1.194.150,00

Figure 4.10 Budget Evaluation for Marketing Order 400237

You can see that an expense of EUR 1,200,000.00 is planned from which EUR 1,194,150.00 are available. At the time the query was issued, the Actual column reads EUR 1,170.00. Where does this value come from? To answer this question, you have to take a look at the development of the purchase order.

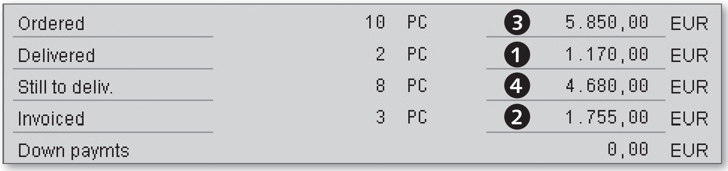


Figure 4.11 Development of Purchase Order 4500018746

In Figure 4.11, you can see that two pieces were posted as goods receipt. According to the purchase order with EUR 585.00/piece, a total of EUR 1,170.00 ❶ was valuated.

However, three pieces at EUR 585.00 were invoiced; that is, the invoice was EUR 1,755.00 in total ❷. Therefore, in this case, the goods receipt values were used for the budget usage. Because the purchase order is EUR 5,850.00 ❸ in total, but goods of only EUR 1,170.00 were received, a commitment of EUR 4,680.00 ❹ still exists.

Figure 4.12 Total Value of Purchase Order 4500018746

The budget evaluation (see Figure 4.10) includes the total value in the ASSIGNED column. You can also determine it using the ACTUAL and COMMITMENT columns.

"Commitments Management" tool

This example illustrates that Commitments Management is a simple but powerful tool that enables you to implement cost accounting even before the costs actually incur. Generating the commitment with the purchase requisition allows for an early interaction from the cost accounting side—for example, by blocking the purchase order or increasing the budget.

The topic of reducing a commitment goes beyond the scope of mere budgeting. Only an accounting-relevant document—that is, the valuated goods receipt or invoice receipt—allows for a reduction of the commitment. Section 4.5, Integration of MM and Financial Accounting/Controlling, describes how the system generates accounting documents.

Availability control

However, mapping the budget and commitment flow is only one side of the story. At least as important is the system behavior in the event of a budget overrun or what is called *availability control*. The bad news is that the standard SAP system can prohibit postings because of budget overruns for internal orders or projects only. It does not allow for triggering an error message for account assignments to a cost center.

[+]

Availability Control for Account Assignments to Cost Centers

SAP Note 68366 (Active Availability Control for Cost Centers) provides a solution using a substitution.

You can influence the behavior for budget overruns for internal orders and projects using Customizing. You can find the settings for internal orders in the Implementation Guide under CONTROLLING • INTERNAL ORDERS • BUDGETING AND AVAILABILITY CONTROL. Here, you first create a budget profile and then assign it to the order types. Additionally, you determine whether availability control is implemented in the case of an account assignment to a budgeted internal order. You can also define tolerances here.

COAr	Prof.	Tr.Grp	Act.	Usage in %	Abs.variance	Crcy
M001	000001	++	1	80,00		EUR
M001	000001	++	2	90,00		EUR
M001	000001	++	3	100,00		EUR

Figure 4.13 Availability Control Tolerances

Figure 4.13 shows an example of a three-level check. This is controlled via the specification of the budget usage in percentages (USAGE IN %) and absolute amounts for the variance (ABSOLUTE VARIANCE) if necessary. The ACTION column enables you to control the system behavior. In our example, the following control is implemented:

- **Action 1**
  When you reach 80 percent of the budget, the system generates a *warning message* for the goods/invoice receipt.
- **Action 2**
  At 90 percent, the system generates another warning and additionally sends an email to the person responsible.
- **Action 3**
  In the event of a budget overrun, the system generates an error message. You can no longer post a document with account assignment to the budget (for example, via an internal order).

4.5 Integration of MM and Financial Accounting/Controlling

Document flow

Figure 4.2 illustrated which documents are generated during the procurement process. In this context, you learned that value flow-relevant procedures always result in multiple documents:

- Material document
- Financial Accounting document
- Controlling document (optional)

For the goods receipt, it is easy to understand why a document needs to be generated in MM. The MM document posts the receipt and the accounting documents map the corresponding values. The purpose of the MM document for the logistics invoice verification is not clear at first glance. Keep in mind that the logistics invoice verification in SAP has more tasks than simply posting the payables and implementing the respective offsetting account assignment.

The invoice verification is characterized by a high integration with MM. The system can compare the invoice of the purchase order with the goods receipt and can consequently automatically answer the question of whether the existing invoice seems to be justified and correct. For this purpose, however, it requires detailed information from the purchase order and the goods receipt if necessary. Technically, this information is solely available in MM.

Content of the MM document

All stock-relevant processes are therefore first mapped by a material document in the inventory management (MM component). Here, the information flow is generated along the material flow, as you already know from Chapter 2, Section 2.1.1, Value Flow. The material document contains all of the pieces of information you need for proper inventory management and detailed evaluations of goods movement:

- Material number
- Storage data such as storage location or stock type
- Movement type

MM account determination

This information serves as the basis for the structure of the documents in Financial Accounting and Controlling that represent the value flow. The interface from MM to Financial Accounting/Controlling is characterized by a high degree of automation, which can be achieved thanks to what is called *MM account determination*. The MM account determination can be considered complex rules for the derivation of account assignments. It is restricted, however, to the determination of G/L accounts and does not affect Controlling account assignments such as cost centers or orders.

The prospect of newly implementing MM account determination makes most consultants moan. First, you have to configure account determination yourself; then, you have to explain the logic of account determination to the user departments, which are general ledger accounting and cost accounting in this case. The latter is usually quite time-consuming and might require strong nerves. If you look at the steps of MM account determination separately, however, you can see that it is not rocket science. It is complex, but has a logical structure. We will therefore begin with an overview and then go into details.

General structure

As the name implies, the goal of MM account determination is to determine a G/L account in Financial Accounting. As you can see in Figure 4.14, you can categorize the numerous relationships into three groups.

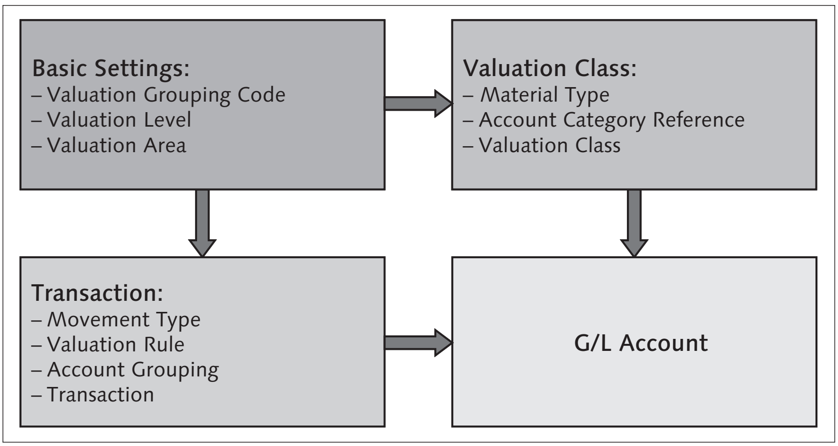


Figure 4.14 Overview of the Settings for MM Account Determination

The basic settings define the valuation class and the transaction, which in turn define the G/L account. The following sections discuss the individual groups in detail.

4.5.1 Basic Settings

Valuation level

Let us start with the basic settings, which enable you to influence the MM account determination behavior as a whole. Here, the central question is at which level you want to influence the account determination and thus the mapping of goods movements in the financial statement. You can choose between plant and company code. The rather simple setting and selection, which are illustrated in Figure 4.15, have far reaching effects.

The *valuation level* defines whether the account determination is identical for all plants of a company code or whether you can set the account determination for each plant individually. After the going-live of the client using standard means, you can no longer change the decision you made. Because this setting applies centrally, you can also find it in the Implementation Guide under ENTERPRISE STRUCTURE • DEFINITION • LOGISTICS – GENERAL • DEFINE VALUATION LEVEL.

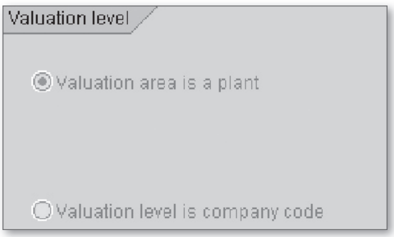


Figure 4.15 Defining the Valuation Level

[!]

Not Reversible and Client-Wide

The valuation level setting is irreversible and applies across all clients.

Plant level recommendation

You should always select the *plant level*, even if no deviating account determination is planned for individual plants at the time of the specification. You have to set the plant as the valuation level if you want to use the PP (Production Planning) component or Product Cost Planning in Controlling. This selection consequently allows for a multitude of options.

Updating the price

In addition to controlling the account determination, the valuation level has further effects. It defines if the accounting view in the material master is maintained per plant or per company code. This is also the level at which the valuated price of a material is updated. The term *accounting view* is therefore misleading.

Valuation area

Accordingly, you usually define the plant as the valuation level. Although multiple plants are defined in your company code, you may still want to specify an account determination at the company code level. One of the reasons for this could be that you want to maintain the account determination specifically for each country, which is a rather common procedure in international enterprises. To map this, the SAP system provides the valuation area classification criterion.

The *valuation area* corresponds to the individual attributes of the selected valuation level. At the "plant" valuation level, each plant corresponds to a valuation area. If you want to work with the "company code" valuation level, the system proposes the company code that exists in the client as the valuation area.

Valuation grouping code

To avoid that you have to assign different account determination to each valuation area, you need to group the valuation areas. For this, you must enable the use of the *valuation grouping code* (VGC). You can do this in the Implementation Guide under Materials Management • Valuation and Account Assignment • Account Determination • Account Determination Without Wizard • Define Valuation Control.

[!]

Missing Connection to the Automatic Transport System

At this point, note that the activation of the VGC, along with the definition of the valuation area, is stored in the TCURM table. This table is not connected to the automatic transport system. Consequently, you enable the VGC directly in the target system. If the target or live SAP system is still initial, for example, in the event of a new system implementation, you can manually bundle the settings in a transport.

For this purpose, you need to include the following entries in the transport request:

- Program ID R3TR
- Object type TABU
- Object name TCURM
- Specify the client as the key.

This missing connection to the transport system is a security measure of the SAP system to avoid that this setting will be overwritten.

Grouping of the valuation areas

You can implement groupings via the Materials Management • Valuation and Account Assignment • Account Determination • Account Determination Without Wizard • Group Together Valuation Areas Customizing path. Figure 4.16 shows a corresponding example.

The first column, Valuation Area (see Figure 4.16) indicates the valuation areas. In this example, these are the plants that exist in the client because here, plants serve as the valuation area (see Figure 4.15). The next two columns, Company Code and Company Name, display the ID and the name of the company code to which the respective plant is assigned. SAP uses the company code to determine the operating chart of accounts that is valid for the account determination for goods movements. Accordingly, the account determination is specific to the charts of accounts.

Val. Area	CoCode	Company Name	Chrt/Accts	Val.Grpg Code
M100	M100	LWM Belgium	M001	BE01
M200	M200	LWM France	M001	FR01
M300	M300	LWM Italia	M001	IT01
PL01	0006	IDES Warszawa	INT	PL01
PL02	0005	IDES AG Lublin	INT	PL01

Figure 4.16 Grouping of the Valuation Areas

Assigning the VGC

In the last column, VALUATION GROUPING CODE (see Figure 4.16), you can view the valuation grouping code. Here, the entries can be freely selected. You should use clear logic, for example, the country code at the first two places and then ascending numbers.

As our example illustrates, Lederwaren-Manufaktur Mannheim has created specific plants for logistics processing in Belgium, France, and Italy. Each plant of Lederwaren-Manufaktur Mannheim you can see in Figure 4.16 is located in another country. Because you work with country-specific VGCs, each plant has its own VGC: plant M100 in Belgium uses BE01, M200 in France uses FR01, M300 in Italy uses IT01. The two plants that are located in Poland, PL01 and PL02, of the 0006 and 0005 company codes both use the PL01 VGC and are thus treated identically in the MM account determination. The figure is therefore an example of how you should define the VGC: The numbering consists of a country code and a counter.

You will then implement all account determination settings at the VGC level only. The settings will apply to all assigned valuation areas.

VGC Assignment

You should only assign company codes with the same chart of accounts to a common VGC to avoid unnecessary complexity for the account determination.

At first, it does not seem to be useful to work with VGCs for, for example, SAP implementations with a single plant/company code. However, for future-oriented project approaches and if the enterprise might continue to grow, you should work with VGCs right from the start. This does not involve much additional effort but considerably facilitates expansion.

You are now familiar with the basic settings for MM account determination, which are summarized in Figure 4.17. This schematic illustration shows that the basic settings are complex only at first glance.

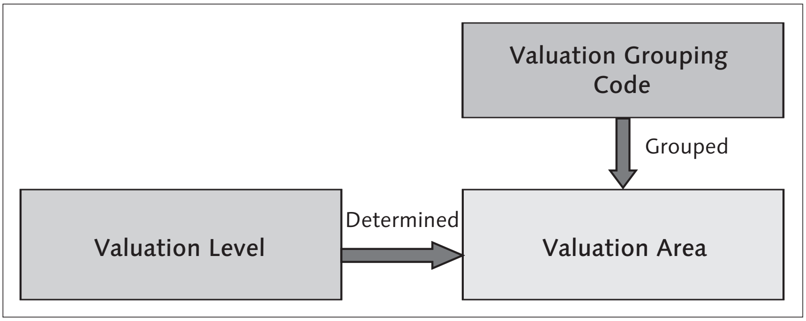


Figure 4.17 Schematic Illustration of Basic MM Account Determination Settings

Split valuation

For the sake of completeness, the option of split valuation should also be mentioned. This enables you to further divide the valuation areas for a material. A common criterion for the division of prices and account determination for a material and its stock is the batch. Batches of a material can have different prices and can be mapped in different ways in the financial statement. This is the case, for example, if the product quality at the end of a production process cannot be absolutely defined and the batches cannot be compared or exchanged. Because this is a topic that is critical in individual industries but not relevant to the majority of enterprises that use SAP, it is not further discussed here.

Instead, we will take a step forward in the MM account determination and turn to the categorization of materials. Because not all materials should be managed in one material stock account in the financial statement, a distinguishing criterion is required for the account determination. SAP provides the *valuation class* for this purpose.

4.5.2 Valuation Class Settings

Valuation class

From the MM account determination view, you can consider the valuation class a grouping of materials. It is defined in the accounting view of every material that is managed on a value basis. Materials with the same valuation class are subject to the same account determination. When designing the account determination, you can define a separate valuation class for each material stock account you want to map in the financial statement. Usually, the following materials are mapped separately:

- Raw materials
- Semi-finished products
- Finished products
- Trading goods
- Operating supplies

In addition, you may want to evaluate certain materials or goods—especially valuable raw materials or goods with high price fluctuations—separately.

Customizing enables you to define which valuation classes are provided for selection in the maintenance of a material. This way, you can reduce the risk of incorrect entries in the material master.

Account category reference

For this purpose, you can group the valuation classes into what are called account category references. For example, if you use multiple valuation classes to map raw materials, you can combine them in the "raw materials" account category reference. When you then create a new material master for a raw material, you can select from all of the valuation classes for raw materials. Every valuation class is assigned to exactly one account category reference; that is, it is an n:1 relationship.

Assignment to the material type

The account category references, in turn, are assigned to the *material types*. Every material type is assigned exactly one account category reference; that is, it is a 1:n relationship. If you use account category references, not all of the materials of one material type have to use the same account determination. Moreover, materials of different material types can be subject to the same account determination.

Figure 4.18 again illustrates the relationships between material type, account category reference, and evaluation class.

Valuation class Customizing

SAP combined the entire Customizing of the valuation class in one Customizing item. You can find it in the Implementation Guide under MATERIALS MANAGEMENT • VALUATION AND ACCOUNT ASSIGNMENT • ACCOUNT DETERMINATION • ACCOUNT DETERMINATION WITHOUT WIZARD • DEFINE VALUATION CLASSES. From there, you can navigate to the three necessary operations: the editing of ACCOUNT CATEGORY REFERENCE, VALUATION CLASS, and MATERIAL TYPE. Figure 4.19 shows the initial screen.

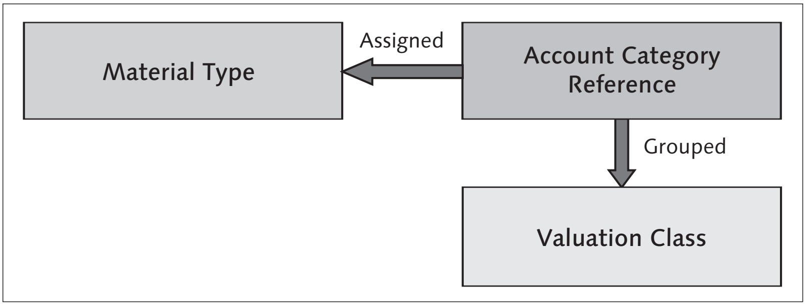


Figure 4.18 Schematic Illustration of the Valuation Class Determination

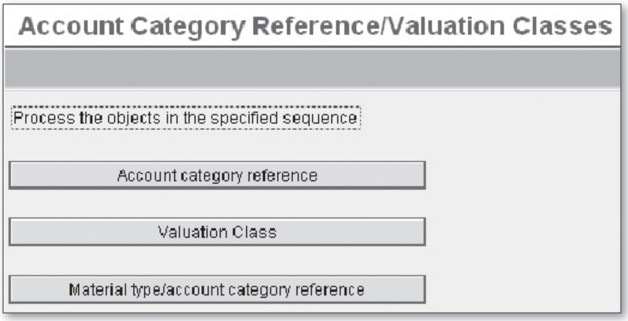


Figure 4.19 Customizing of the Valuation Classes

Using the Account Category Reference/Valuation Class view, first define the Account Category References, that is, the link between valuation classes and material type (see Figure 4.20).

Account Category Reference

ARef	Description
0001	Reference for raw materials
0002	Ref. for operating supplies
0003	Reference for spare parts
0004	Reference for packaging
0005	Reference for trading goods
0006	Reference for services
0007	Ref. for non-valuated material
0008	Ref. for semifinished products
0009	Ref. for finished products
0010	Ref. for NLAG
0600	Ref for empties fixed
0700	Ref for empties current

Figure 4.20 Definition of the Account Category References

Then, you can create the VALUATION CLASSES and immediately assign them to an account category reference. This is illustrated in Figure 4.21.

Valuation Classes			
ValCl	ARef	Description	Description
M100	0009	LWM - finsihed products	Ref. for finished products
M200	0008	LWM - semifinished pro.	Ref. for semifinished products
M300	0005	LWM - trading goods	Reference for trading goods
M400	0002	LWM - operating supplies	Ref. for operating supplies
M500	J001	LWM - model	
M600	0001	LWM - raw materials	Reference for raw materials
M610	0001	LWM - raw material GOLD	Reference for raw materials
M700	0004	LWM - packaging	Reference for packaging

Figure 4.21 Creating and Assigning Valuation Classes

In the third and last step, you assign the account category references to the MATERIAL TYPES (see Figure 4.22).

Account Category Reference/Material Type			
MTyp	Material type descr.	ARef	Description
MFER	Finished product	0009	Ref. for finished products
MHAL	Semi-finished product	0008	Ref. for semifinished products
MHAW	Trading goods	0005	Reference for trading goods
MHBS	Operating supplies	0002	Ref. for operating supplies
MMUS	Samples	0005	Reference for trading goods
MODE	Apparel (seasonal)	0009	Ref. for finished products

Figure 4.22 Assigning the Account Category Reference to the Material Type

Material type

For the inventory management of the materials in the SAP system, the material type assumes a major role. Chapter 3, Section 3.4.3, Material Master, already discussed some material master settings that are essential for the value flow. The material type was not mentioned there, because it does not directly affect the value flow. But as you know now, the material type is a critical MM account determination element.

Customizing of the material type

You can find the material type Customizing in the Implementation Guide under LOGISTICS – GENERAL • MATERIAL MASTER • BASIC SETTINGS • MATERIAL TYPES • DEFINE ATTRIBUTES OF MATERIAL TYPES.

Quantity update and value update

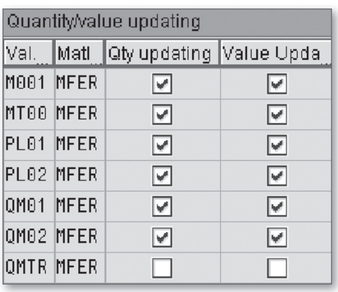
The material type also defines whether quantities and/or values are updated for the materials that are assigned to the material type. You can generally activate or deactivate quantity and value updates or even make this decision at the valuation area level. There are certainly reasons for controlling the quantity and value updates of the material types in the individual valuation areas in different ways. In real life, however, this is an exception.

Figure 4.23 displays the corresponding settings for the MFER material type (LWM – finished products), which you can find in the Implementation Guide under LOGISTICS – GENERAL • MATERIAL MASTER • BASIC SETTINGS • MATERIAL TYPES • DEFINE ATTRIBUTES OF MATERIAL TYPES.

Figure 4.23 Quantity/Value Updates of the Material Type

As you can see in Figure 4.23, our material type does not clearly define whether quantities or values are updated. It depends on the settings in the individual valuation areas, which are shown in Figure 4.24.

This figure also indicates that a decision about the quantity and value update at the valuation area level actually means that the materials in the individual plants/company codes behave differently. Based on our example, this means that quantities and values are updated for MFER in all valuation areas, except for valuation area QMTR.



Quantity/value updating

Val.	Matl	Qty updating	Value Upda
M001	MFER	☑	☑
MT00	MFER	☑	☑
PL01	MFER	☑	☑
PL02	MFER	☑	☑
QM01	MFER	☑	☑
QM02	MFER	☑	☑
QMTR	MFER	☐	☐

Figure 4.24 Quantity/Value Updates for Every Valuation Area

New material types

MM account determination is only relevant for materials that are subject to value updates. However, you should trust in the SAP standard and only create new material types by copying a standard material type and changing it according to your requirements.

Usually, the MM component administrators/consultants design and implement the material types. Afterward, the material types should be assigned to the account category references by the persons who are responsible for the MM account determination.

Regarding the account category references, this section introduced the standard-related solution. In this context, the system only provides a part of the valuation classes (namely, the account category reference) when you create a material.

Alternative assignment

Alternatively, you can also assign all valuation classes to one account category reference. As a result, the material maintenance then provides all classes of the client for the valuation class selection. One of the benefits of this method is that you can decide for each material how it should be mapped in the financial statement. The disadvantage is that a wrong valuation class may be selected due to the large number of options. If the wrong valuation class is selected, all movements of this material will be mapped incorrectly in accounting and cost accounting.

You now know that the definition of valuation classes is no problem at all. All that remains is the last subject area: determining transactions and modifying accounts. Unfortunately, this subject area is also the area with the highest complexity within MM account determination.

4.5.3 Determining Transactions

Because the MM account determination reflects the goods movements in inventory management, the properties of each movement play an essential role in account determination: Is it merely an internal transaction or perhaps a delivery to a customer? Is the enterprise the owner or is it vendor stock?

Transactions and account groupings

The most apparent element that can provide important information is the *movement type*. Because the standard version already contains numerous movement types, it would be very time-consuming to directly link the movement types to G/L accounts. You also have to consider additional influencing factors such as the stock type (e.g., special stock) and quantity or value updates of the material. Consequently, SAP developed comprehensive rules according to which you can specify and classify goods movements for the account determination. In the end, the account determination is configured based on what are called *transactions* and *account groupings*.

Figure 4.25 illustrates how the SAP system determines these two objects. The following sections describe in detail how this determination is implemented.

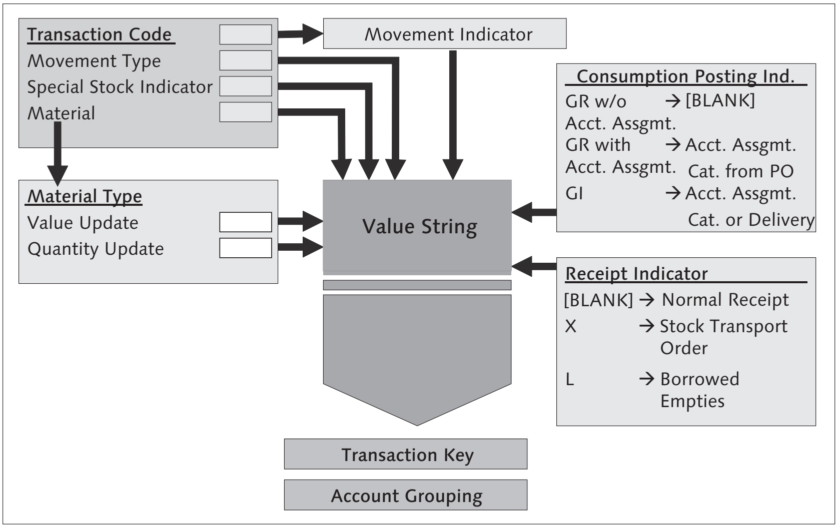


Figure 4.25 Determining the Transaction Key and Account Grouping

Movement indicator

To record goods movement in materials management, the SAP system provides a wide range of special transactions. Within the SAP system, these transactions are linked to what are called movement indicators. The following attributes are available for movement indicators:

- B goods movement for purchase order
- F goods movement for order
- L goods movement for delivery note
- O subsequent adjustment of stock of material provided/material provided

The link between transaction and movement indicator is established in table T158 (Inventory Management Transaction Control). Table 4.2 shows six transactions for posting goods movements.

The names of the transaction codes already imply whether the system can determine which transaction is posted. For Transactions MIGO and MIGO_GR, the SAP system assumes that a goods movement is recorded for a purchase order. MIGO_GO is a goods movement for an order. Transactions MIGO_GI and MIGO_TR do not indicate what kind of movement is posted. Consequently, no movement indicator is defined for these transactions. Although this indicator affects MM account determination, you will rarely come across it.

Transaction	Description	Value Assignment Indicator
MIGO	Goods Movement	B
MIGO_GI	Other Goods Movement	
MIGO_GO	Goods Movement for Order	F
MIGO_GR	Goods Movement for Purchase Order	B
MIGO_GS	Subsequent Adjustment of Material Provided	O
MIGO_TR	Other Transfer Posting	

Table 4.2 Link Between Transaction and Movement Indicator

Movement type

This is different for the movement type, which is another important account determination element. Its primary task is the presentation of the material flows in the enterprise.

Reduced to its key aspects, every goods movement leads to a goods receipt, a goods issue, or—for stock transfers—both. However, to control the numerous goods movements, this information is not detailed enough. Therefore, the movement type supports you because it is responsible for a more detailed specification of the movement.

To perform this task, you have to implement various definitions for each movement type. You define individually which transactions provide the movement type and which fields can or have to be populated. The movement type also specifies whether the incident leads to quantity and/or value updates. The system proposes movement types in many MM transactions. If the SAP system does not propose a movement type, you can also enter one manually.

Special stock indicator

When entering a goods movement, you also define whether the transaction affects *special stock*. If so, a special stock indicator is required. This indicator enables you to manage certain stock separately from normal stock for a material. Common examples include customer stock (goods are reserved for the customer) or consignment stock (goods are received by you, but are still the property of the vendor). The consignment stock topic in particular affects value updates to a large extent: As long as the goods are still the property of the vendor, you are not allowed to map the goods as values in the financial statement.

Consumption posting

Another indicator you usually cannot influence is the *consumption posting* indicator. The system sometimes sets this indicator automatically and sometimes has to determine it. For example, movements with purchase order reference are provided with a value of this indicator from the account assignment category of the purchase order item. The SAP system offers the following values for the consumption posting indicator:

- A asset
- V consumption
- E settlement through sales order
- U unknown
- P settlement for project

Receipt indicator

Finally, there is the *receipt indicator*, which is used for MM account determination. It specifies the type of the goods receipt or of the stock transfer but can only adopt one of the following three values:

- [BLANK] normal receipt
- X stock transport order
- L borrowed empties

Value string

From the combination of all of these indicators—movement indicator, movement type, special stock indicator, quantity and value update, consumption posting, and receipt indicator—the SAP system determines what is called a *value string*. You can consider this string a posting rule that defines how you have to transfer a material document to Financial Accounting/Controlling. This context can be best understood at the table level.

PstgStrRef	Val.Update	Qty update	S	Mvt	Rec	Cns	Value str.
101	X	X		B			WE01
101	X	X		B		A	WE06
101	X	X		B		V	WE06

Figure 4.26 Excerpt of Table T156SY
(Quantity/Value Update Movement Type: System Table; as of Rel. 4.6A)

Figure 4.26 shows an example of movement type 101 ("Goods receipt for purchase order in stock"). In all three rows, both the value and quantity are updated. They are not special stock movements, as you can see from the missing entries in the S column (special stock indicator). The B movement indicator in the MOVEMENT column indicates that this transaction is a goods movement for a purchase order. The fact that the receipt indicator (RECEIPT column) is missing means that it is a usual receipt. Up to this point, the three rows are identical.

The only difference occurs in the CONSUMPTION column (consumption posting). You can see that it is not relevant whether it is a consumption or a consumption for an asset because both cases refer to the WE06 value string. Only the fact that the first entry does not include a consumption posting leads to a deviating value string (WE01).

You can then use the value string to determine a transaction. Because some transactions require a more detailed subdivision of the account determination, the SAP system provides account grouping.

Transaction and account grouping

Account grouping enables you, for example, to further break down the "Offsetting entry for inventory posting" transaction (GBB transaction key). Various account groupings enable you, for example, to control goods issues for cost centers (movement type 201) and goods issues for sales orders (movement type 231) for different consumption accounts. In addition to the "Offsetting entry for inventory posting" transaction, you can also use account groupings for price differences (PRD) and consignment liabilities (KON). Transaction OMWN enables you to customize the account grouping.

Creating custom account groupings

You can also define your own account groupings. This is useful if your reporting requirements are specific. A common example can be that you are unsatisfied with the VBR (consumption) account grouping because you want to display withdrawals for orders separately from withdrawals for cost centers. In this context, MM uses two different movement types anyway: 201 for withdrawals for cost centers, and 261 for withdrawals for orders. This means that you have to create only two additional account groupings. Afterward, you must adapt the mapping of the 201 and 261 movement types to the new entries.

Transactions in the SAP standard

The standard SAP system already provides numerous *transactions*. The documentation prepared by SAP has considerably improved over the last years but is still rather confusing. Therefore, the following sections detail the most critical default transactions:

- **Expenditure/income from consignment material consumption (AKO)**
  Transaction AKO is used when material is withdrawn from consignment stock. The withdrawal can be due to consumption or due to a transfer to your own stock.

- **Expenditure/income from transfer posting (AUM)**
  Transaction AUM is used for transfer postings of material to material. If the price of the issuing material is different from the price of the receiving material, this results in price differences. These price differences are posted with AUM.
- **Stock change (BSV)**
  Transaction BSV is only possible for materials that are produced externally using subcontracting. You use BSV for goods receipt or subsequent allocations to subcontract orders.

  This is one of the situations where the SAP system cannot derive useful Controlling account assignment. If you still want to define the assigned account as a cost element, you have to define standard account assignments, for example, using Transaction OKB9.

Defining Standard Account Assignments [+]

Postings always exist that you cannot provide with useful Controlling account assignments or that always have to be assigned to the same cost center/order. In these situations, you have two options to link a cost element to a fixed cost center or order:

- You can enter the Controlling account assignment in the cost element master record itself.
- You can use Transaction OKB9, which enables you to define a fixed cost center, order, business area, or profit center for a cost element.

The advantage of Transaction OKB9 is that it displays an overview of all standard account assignments. However, you should ensure that you select one of these two methods to be able to understand how a Controlling account assignment has been determined.

- **Stock posting (BSX)**
  Transaction BSX addresses the material stock accounts in the financial statement. It is always relevant when the material stock changes. Examples of this are goods receipts or issues in your own stock or an update of the moving average price when price differences occur in invoice verification.

  The specifications for reconciliation accounts also apply to material stock accounts: You should not post them manually. This is the only way to ensure that the MM inventory management corresponds to accounting regarding values.

- **Mapping of delivery costs**
  In orders, you can specify different kinds of delivery costs. To post these costs for the goods or invoice receipt, different transactions are available:
  - Freight clearing (FR1)
  - Provisions for freight charges (FR2)
  - Customs clearing (FR3)
  - Provisions for customs clearing (FR4)
- **Offsetting entry to the stock posting (GBB)**
  Transaction GBB is the most important and comprehensive transaction in the standard SAP system. Both from an accounting and controlling view, it is not sufficient to say that a posting item is the offsetting entry to the stock posting. Consequently, Transaction GBB in particular is further structured through the intensive use of account groupings.

  The standard version provides the account groupings shown in Table 4.3.

Account Grouping	Usage
AUA	Settlement of orders
AUF	Goods receipts for orders if no genuine Controlling account assignment is provided and for order settlement if the AUA account grouping is not maintained
BSA	Initial entries of stock balances
INV	Expenditure or income from inventory differences
VAX	Goods issues for sales orders without account assignment object (the account is not a cost element)
VAY	Goods issues for sales orders with account assignment object (the account = cost element)
VBO	Consumption from stock provided to vendor
VBR	Internal material withdrawals, for example, for internal order/cost center
VKA	Sales order account assignment
VKP	Project account assignment
VNG	Scrapping or destruction
VQP	Sample without account assignment

Table 4.3 Account Groupings for Transaction GBB

Account Grouping	Usage
VQY	Sample with account assignment
ZOB	Goods receipts without purchase order (movement type 501)
ZOF	Goods receipts without production order (movement types 521, 531)

Table 4.3 Account Groupings for Transaction GBB (Cont.)

- **Purchase order with account assignment (KBS)**
  Transaction KBS is an entry that is required for technical reasons only. In purchase orders with account assignment, the MM account assignment does not have to identify a G/L account because the account assignment is already defined in the purchase order. Transaction KBS therefore only serves to specify the posting keys for the goods receipt posting.
- **Exchange rate rounding differences for Materials Management (KDR)**
  An exchange rate rounding difference can occur when an invoice in foreign currency is received. If a balance is created when the invoice is converted to the local currency, the system automatically generates a posting line for exchange rate rounding differences.
- **Small differences in Materials Management (DIF)**
  Transaction DIF is used in invoice verification when you define a tolerance limit for small differences and the balance of the invoice does not exceed the tolerance.
- **Price differences (PRD)**
  Price differences occur for materials with a standard price for all movements and invoices that are valuated at a price other than the standard price. You will face price differences in the following examples:
  - Goods receipts for purchase orders if the purchase order price differs from the standard price
  - Goods issues if an external amount is entered
  - Invoices when the invoice price differs from both the purchase order price and the standard price

  Price differences can also occur for invoices for materials with a moving average price when there is insufficient stock coverage for the quantity invoiced. For goods movements that would result in negative stock balances, the moving average price does not change; instead, possible price variances are posted to a price difference account.

Depending on the settings for the posting rules for Transaction PRD, you can work with or without account grouping. If you work with account grouping, the standard SAP system uses the groupings shown in Table 4.4.

Account Grouping	Usage
[BLANK]	Goods/invoice receipts for purchase orders
PRF	Goods receipts for production orders and order settlement
PRA	Goods issues and other movements
PRU	Price differences in the context of transfer postings

Table 4.4 Account Groupings for Transaction PRD

- **Delivery cost provisions (RUE)**
  Provisions for delivery costs are created when a condition type for provisions is entered in the purchase order.

  Unfortunately, the SAP system does not support provision clearing against actual costs; therefore, this has to be done manually.
- **Income/expenditure from revaluation (UMB)**
  Transaction UMB is used both in inventory management and in invoice verification when the standard price of a material has changed and a goods movement or an invoice is posted to the previous period (at the previous price). You can only post in previous periods if period closing for material masters is set accordingly. For more information on this topic, refer to Chapter Section 7.5.1, Period Closing for the Material Master.
- **Unplanned delivery costs (UPF)**
  In the ideal case, the purchasing department has already entered the conditions for the delivery costs in the purchase order. Unplanned delivery costs are costs that are included in the vendor invoice (such as freight or duty costs) but not specified in the purchase order. You can either distribute these costs across the invoice items or post them to a separate account. For the second variant, Transaction UPF must be maintained in account determination.
- **GR/IR clearing (WRX)**
  Postings to the GR/IR clearing account occur when goods and invoices are received for purchase orders. For more information on the GR/IR account, refer to Section 4.8, GR/IR Account.

Additional transactions are available, for example, regarding the material ledger. However, the transactions listed here are the transactions you will use most often.

To understand how MM account determination works is only one side of the coin. It is just as important to understand what to do to rebuild account determination.

4.5.4 Rebuild Process for Account Determination

If you want to rebuild account determination in a result-oriented way, you should perform the following steps:

1. Define the a company code or plant as the valuation level.
2. Create a valuation grouping code and link it to the valuation areas.
3. Define and assign valuation classes.
4. Define G/L accounts and check whether cost elements are created for the relevant transactions.
5. Correct reported errors for the goods movements.

Defining the valuation level

The first step, defining the valuation level, involves an easy decision: If you use PP or want to calculate products in Controlling, you must use the plant as the valuation level.

Defining the valuation class

The valuation classes are also usually not a problem. The critical question is: Which material stock accounts does the accounting department want to map in the financial statement? One valuation class is required for each material stock account. The resulting list of valuation classes should then also be discussed with the cost accounting department because it may want to be able to evaluate specific materials separately, for example, because high stock values are expected for these materials or because extreme price fluctuations are likely, which are supposed to be analyzed separately. Tracking becomes easier if you use separate accounts for the mapping of stock, expenditure, and income.

Defining G/L accounts for critical transactions

Afterward, you should define a G/L account for the most important transactions. Which transactions are critical depends on the business activities of your enterprise. In a first step, you could maintain the following transactions and account groupings, for example:

- Transaction BSX
- Transaction GBB
  With the AUA/AUF, VAX/VAY, and VBR account groupings

- Transaction DIF
- Transaction PRD
- Transaction WRX

[+]

Learning by Mistakes

When rebuilding the MM account determination, you can spend a lot of time with theoretical discussions about transactions, valuation classes, and accounts in advance. Alternatively, you can deploy the "learning by mistakes" method and directly start with the implementation.

This means: Configure the basic account determination that covers the material stock accounts, the critical offsetting account assignments, and the GR/IR accounts. All transactions of which you are not sure whether they are needed or how they should be mapped in accounting are not maintained.

You then have to wait for error messages in Logistics. With each message on a missing account determination, you can enhance the account determination. However, for this procedure, short response times in the event of error messages are essential. Otherwise, you cannot test the Logistics components.

Usually, this procedure is of interest for everyone involved, because it shows which transactions are posted in Logistics. Sometimes interesting technical discussions about how to handle materials and their mapping in the financial statement may arise in this context.

Tabular mapping of the MM account determination

Experience has shown that tables are best suited for the mapping of the *MM account determination*. Among other things, the horizontal axis shows the valuation classes. The vertical axis can list the movement types and transaction keys with possible account groupings. In the matrix data area, you can then define the corresponding G/L accounts, separated by debit and credit if required. If you need to map several parallel account determinations, you should create a table for every VGC. Table 4.5 shows an example.

Transaction	Movement Types	Transaction/ Account Grp.	VGC	Valuation Classes			
				Raw	Semi	Finish	Pack.
Goods receipt	101, 102, …	BSX	0001	39000	39100	39200	39300
Inventory difference	701, 702	GBB INV	0001	35000	35000	35020	35010
Inventory difference	701, 702, …	GBB INV	0002	35040	35020	35020	35010

Table 4.5 Structure of a Microsoft Excel Table for the MM Account Determination (Excerpt)

Finally, you have to clarify who is responsible for maintaining the MM account determination. As with all interface topics, you can only achieve the goal to set up reasonable account determination if the logistics, accounting, and cost accounting departments work in close coordination. Nevertheless, the accounting and/or cost accounting departments should be responsible for maintaining the account determination because they receive the data and have to meet the requirement that the material stock and income statement accounts are correctly debited and credited for goods movements.

MM account determination simulation

You may not always be sure which posting is generated for an MM movement type. For these situations, SAP provides an *MM account determination simulation* for experts. You can navigate to this simulation using the Simulation button in Transaction OMWB.

In the Simulate Inventory Management: Entry of Simulation Data input screen, you must enter the plant, the material, and a movement type (see Figure 4.27).

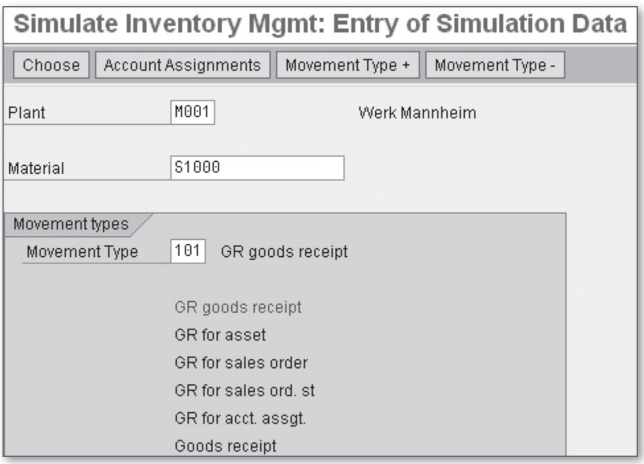


Figure 4.27 Simulation of the MM Account Determination—Selection

In Figure 4.27, 101 is specified for the Movement Type in the selection field. The system displays or updates the list below this field, which shows the different goods receipts, when you confirm the entry of the movement type with Enter. Select a variant from the list by double-clicking on it. It is then highlighted in blue. The Account Assignments button takes you to the evaluation of the simulation (see Figure 4.28).

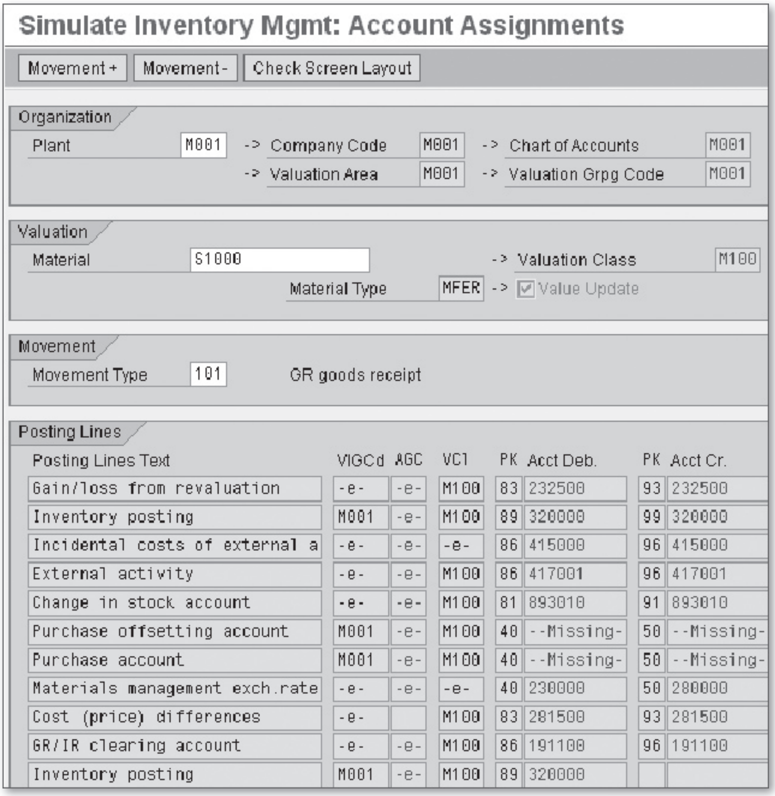


Figure 4.28 Simulation of the MM Account Determination—Evaluation

The top field groups in Figure 4.28 show that the following information has been derived from the plant:

- Company code and thus chart of accounts.
- Valuation area and thus valuation grouping code.
- The valuation class is determined from the material.
- The system uses the material type to check whether value updating is enabled in this case.

The lower part of the screen displays all transactions that could be relevant for the selected movement type. The list ranges from inventory management to GR/IR account and purchase account determination. It indicates which account is determined or if—as in this example—the account determination is not maintained for the purchase account and purchase offsetting account.

Comparing the field control

The CHECK SCREEN LAYOUT button (see Figure 4.28) enables you to navigate to additional useful functions, namely, the comparison of the field groups of movement type and G/L account. Both elements—movement type and G/L account—individually define which fields are ready for input or even which fields are mandatory entry fields. However, it is possible that the movement type in MM does not allow for transferring a cost center in the material posting and at the same time, the cost center is a mandatory entry for a G/L account that has been determined for the movement type in the account determination. In this situation, the system outputs an error message because the G/L account does not receive all necessary information. The reconciliation function enables you to compare the field controls of movement types and of the G/L accounts that have been determined in the MM account determination.

Figure 4.29 shows this kind of comparison. A yellow minus indicates that the field is hidden. A circle stands for an optional entry. Mandatory fields are illustrated by a plus.

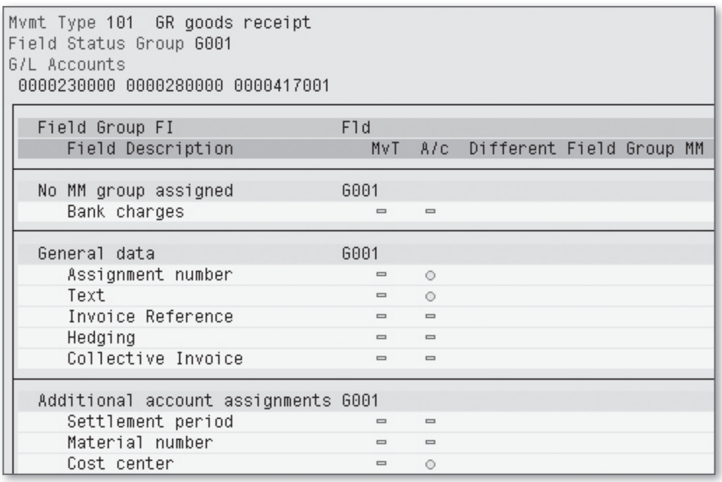


Figure 4.29 Comparing the Field Controls of Movement Type and G/L Account

You only need these two functions—simulation and field comparison—when the system outputs an error message. In that situation, however, they are very useful.

You have now met all requirements for a smooth integration of logistics and accounting. All MM transactions that are relevant for the value flow should now be transferred without any problems. Let us recall Figure 4.1 with the illustration of the adapted SCOR model. According to this model, the goods receipt is the next process step after the purchase order.

4.6 Goods Receipt

Are goods receipts necessary?

The decision whether *goods receipts* are necessary is already made in the purchase order. The system generates a proposal on this using the account assignment category, which you already know from Section 4.3, Purchase Order as the Basis of the Procurement Process. The item category controls whether you can overwrite this proposal.

The first decision—whether the goods receipt should be posted in the system—is rather easy. For stock material that is delivered at the gate with a delivery note, you expect a goods receipt and can also post it accordingly. For a drop shipment, the vendor delivers the goods directly to your customers. This means that you do not post a goods receipt.

Valuated/ non-valuated goods receipt

More complicated is the decision about whether the goods receipt should be *valuated* or *non-valuated*. If you define in the purchase order that the goods receipt should be non-valuated, the valuation does not take place until the invoice is received.

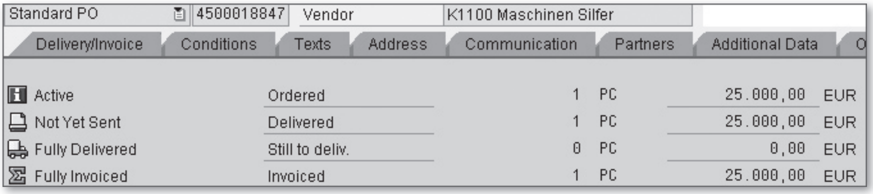
"Asset acquisition"

The best example of consequences of a decision about a valuated or non-valuated goods receipt is the acquisition of an asset. This is an example that is also frequently discussed in day-to-day work. For an asset acquisition, the time of the valuation defines when the asset is posted for the first time.

For a non-valuated goods receipt, the goods value is initially posted to a clearing account only. When the invoice is received, the clearing account is credited against the capitalized asset. This means that the relevant event for the asset capitalization is not the goods receipt but the invoice receipt.

For a valuated goods receipt, the goods value is directly posted to the asset when the goods are received. If it is a capitalized asset, the depreciation calculation begins when the goods are received. This is the common method.

We will now take a look at an example with a purchase order for an asset. For this purpose, a valuated goods receipt and an invoice receipt were posted, as you can see in the purchase order status in Figure 4.30.



Standard PO | 4500018847 | Vendor | K1100 Maschinen Silfer

Delivery/Invoice | Conditions | Texts | Address | Communication | Partners | Additional Data | O

Active	Ordered	1	PC	25.000,00	EUR
Not Yet Sent	Delivered	1	PC	25.000,00	EUR
Fully Delivered	Still to deliv.	0	PC	0,00	EUR
Fully Invoiced	Invoiced	1	PC	25.000,00	EUR

Figure 4.30 Purchase Order Status—Valuated GR for an Asset

The fact that both a quantity and an amount are specified in the DELIVERED line (see Figure 4.30) also indicates that this is a valuated goods receipt. This means that the purchase order has been delivered completely and invoiced in the meantime. To view the date on which the goods and invoice receipt were posted, you have to look at the history of the purchase order item (see Figure 4.31).

Sh...	MvT	Material Do...	Item	Posting Date	Σ Quantity	OUn	Σ	Amount	Crcy
WE	101	5000014078	1	01.04.2009	1	PC		25.000,00	EUR
Tr./Ev. Goods receipt					▪ **1**	**PC**	▪	**25.000,00**	**EUR**
RE-L		5105609189	1	26.04.2009	1	PC		25.000,00	EUR
Tr./Ev. Invoice receipt					▪ **1**	**PC**	▪	**25.000,00**	**EUR**

Figure 4.31 Purchase Order History for the Asset Item

Here, you can see that the goods receipt was posted on 04/01/2009 while the invoice was entered much later, on 04/26/2009. For a valuated goods receipt, the asset has to use the date of the goods receipt. This is indicated by the CAPITALIZED ON field in the asset master in Figure 4.32.

Stock material receipt

From the value flow perspective, the goods receipt does not include further special aspects. For materials that are managed on a quantity and value basis, the stock is built-up at this point and thus the stock value in the financial statement increases.

Vendor consignment stock

The stock value may not be increased if you are not the owner of the goods. An example of this is the vendor consignment stock. In this case, only an MM document but no Financial Accounting document is generated when the goods are received. Moreover, the goods are still the property of the vendor. Regarding quantity, you have to enter the stock for your plant so that you can include it in your production process.

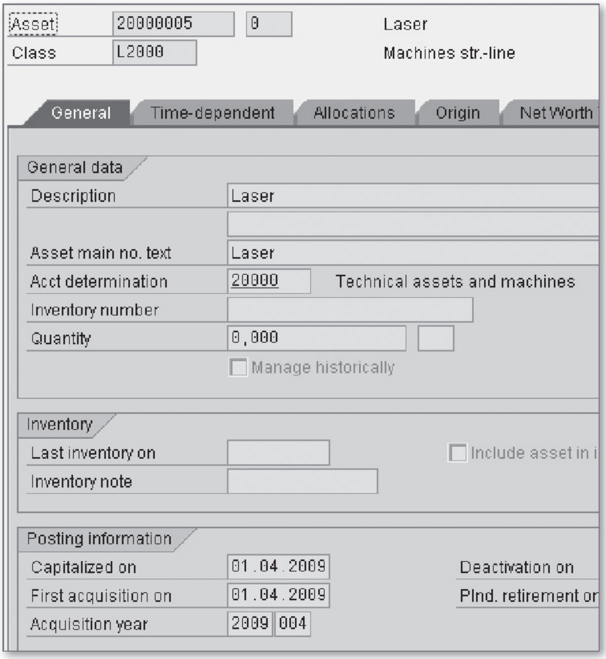


Figure 4.32 Capitalization Date in the Asset Master

4.7 Invoice Verification

Formal invoice verification

The term *invoice verification* can refer to different processes: to the technical verification and to the formal verification of an incoming invoice. This ensures that a vendor invoice meets the legal requirements and can be posted. An incoming invoice must include the following specifications, for example, to pass the invoice verification:

- Name and address of the providing enterprise and of the debiting party
- Tax number of the providing enterprise
- Unique sequential invoice number
- Issue date of the invoice (invoice date)
- Quantity and standard description of the delivery or type and scope of the service provided
- Net amount for the delivery or service
- Tax rate and amount (if the delivery or service is tax-exempt, this needs to be specified explicitly)

- Any reduction of the amount to be paid that was agreed in advance, such as discounts
- Time of the delivery and service

[+]

Invoice and Delivery Date are Identical

You have to identify both dates, even if the invoice and delivery date are identical. In this case, it is usually sufficient to refer to the delivery note number or make a note that the invoice and delivery dates are identical.

The goal here is not to check whether the invoice is factually justified but whether it meets all legal requirements.

Factual invoice verification

In addition to the formal verification, incoming invoices also need to be factually verified. In this context, you should primarily clarify whether the invoice amount is correct and whether the vendor has correctly provided or delivered the agreed service or goods.

System support

SAP systems cannot support formal invoice verification. Instead, software solutions with handwriting recognition and the respective check routines can be used instead. The problem is that vendor invoices have different structures so that the support of a third-party system often does not have the desired result. Enterprises with a high volume of incoming invoices tend to outsource this schematic verification to countries with low wage levels.

Logistics Invoice Verification

For factual invoice verifications, however, the SAP system provides a very good tool: Logistics Invoice Verification. It is characterized by a high integration with MM and Financial Accounting/Controlling. Posting invoices with Logistics Invoice Verification should be a standard process and is therefore discussed in detail in this section.

[+]

Invoice Verification also Includes Credit Memos

At this point, it should be mentioned that we are still referring to invoices and that the function is called *Logistics Invoice Verification*. However, you can, of course, also post credit memos.

4.7.1 Invoice Verification Process

Whether the system expects an invoice is defined by the account assignment category in the purchase order—as is the case for the goods receipt. If you define here that you do not expect an invoice for an external purchase order—that is, a purchase order that is provided to an external vendor—the system assumes that the delivery is free of charge. Usually, however, an invoice receipt is defined in the purchase order.

GR-based invoice verification

Another critical specification for invoice verification is made in the purchase order. You define against what the invoice is checked: the purchase order or the goods receipt (GR). You make this decision via the GR-Based Invoice Verification checkbox. You can find this checkbox in the detail view of the purchase order item on the Invoice tab (see Figure 4.33).

Figure 4.33 Invoice Receipt Specifications in the Purchase Order

"Invoice receipt specifications" example

Let us take a closer look at the consequences of this decision using two examples:

- The invoice is received before the goods are received.
- A partial delivery is received and the invoice is received afterward.

In the example, two purchase orders with 10 m2 of box calf leather are created. In the first purchase order, the indicator for the GR-based invoice verification is not selected; in the second purchase order, the indicator is selected.

IR before GR

Let us assume that the vendor issues the invoice faster than delivering the goods. The following section details what happens next.

Purchase Order Without GR-Based Invoice Verification

The invoice is checked against the purchase order. The SAP system generates a warning that no quantities have been posted yet (see Figure 4.34).

Figure 4.34 Message if the Invoice is Received Before the Goods are Received—Without GR-Based Invoice Verification

However, this message is only a warning and does not prevent you from posting the document. Nevertheless, in this case, the system automatically blocks the document for payment because there is a quantity variance because of the missing goods.

Purchase Order with GR-Based Invoice Verification

The system behaves differently with GR-based invoice verification. Because no goods receipt has been posted yet, the SAP system cannot verify the invoice. It therefore prevents you from entering the invoice (see Figure 4.35).

```
No (suitable) item found for purchase order 4500018819
No goods items found
```

Figure 4.35 Message for GR-Based Invoice Verification and Invoice Receipt Before Goods Receipt

Although these messages are not actual error messages, they make it impossible to enter the invoice with reference to the purchase order.

This system behavior indicates the first consequence of the GR-Based Invoice Verification indicator: If it is selected, you cannot enter the invoice until the goods receipt has been posted. For purchase order items for which you do not expect timely postings of the goods receipt—for example, for the weekly beverage delivery for the office—you should avoid using GR-based invoice verification. Alternatively, you have to considerably increase the discipline applied for posting the goods receipts.

GR with partial delivery before IR

Let us take a different situation as an example: First, the goods receipt and then the invoice is posted. Because real life is not always as ideal as we would like it to be, let us add another detail. According to the principle "trust is good, control is better," a proper incoming inspection also entails counting the actual quantity and it is possible that only a partial delivery is received instead of the entire ordered quantity. It is also possible that the vendor is honest and has made a partial delivery due to delivery problems on his end, for example. Therefore, let us assume that the vendor in the example has production problems and can therefore only deliver 8 instead of 10 m2 of leather. Unfortunately, the ordered 10 m2 were invoiced.

In both cases—with and without GR-based invoice verification—the system provides only a quantity of 8 m2 for selection when you want to enter the invoice using Transaction MIRO (see Figure 4.36).

Item	Amount	Quantity	Or...		Purchase ...	Item
1	1.600,00	8,00	M2	☐	4500018823	10

Figure 4.36 Item Proposal in the Invoice Receipt for Partial Delivery

We will overwrite this proposal and post 10 m2 of our material at a net price of EUR 2,000.00. The only consequence is an automatically set payment block due to the quantity variance between invoice and goods receipt. As an alternative to the purchase order history, you can also have the system display the status of the purchase order (Figure 4.37).

Ordered	10,00	M2	2.000,00	EUR
Delivered	8,00	M2	1.600,00	EUR
Still to deliv.	2,00	M2	400,00	EUR
Invoiced	10,00	M2	2.000,00	EUR
Down paymts			0,00	EUR

Figure 4.37 Purchase Order Status for Partial Delivery and Complete Invoice Receipt

It is obvious that the vendor has invoiced more than delivered. You can also see that it makes little difference whether you work with or without GR-based invoice verification. Only the case where the invoice is received before the goods receipt is posted is handled more restrictively for GR-based invoice verification.

Customizing of the Logistics Invoice Verification

You were already introduced to the Logistics Invoice Verification settings that are implemented by the purchasing department in the purchase order. These settings include the definition whether an invoice is expected at all and against which material document—purchase order or goods receipt—the invoice is checked. Let us take a step back and have a look at the parameters that the invoice verification itself provides. You can find all corresponding settings in the Implementation Guide under MATERIALS MANAGEMENT • LOGISTICS INVOICE VERIFICATION.

Document number assignment

The fact that Logistics Invoice Verification also creates both an MM document and a Financial Accounting document often leads to discontent among invoice verification clerks, particularly in the event of SAP implementations. One of the reasons for this is an admittedly unfavorable procedure in the SAP standard: When an invoice is posted, the SAP system initially only displays the MM document number. However, this document number is usually rather uninteresting because—as for any other Financial Accounting transaction—the system shows the Financial Accounting document number in the line item display of the vendor account. There are two solutions to this situation:

- The MM document number is also used as the Financial Accounting document number.
- In the message that indicates that a document has been posted, the system displays the Financial Accounting document number in addition to the MM document number.

In the early Logistics Invoice Verification years, only the first variant was available. You had to provide external number assignment for the Financial Accounting number range to have the system use the MM document number. Additionally, you had to deactivate the buffering of the MM number assignment, which also leads to an improved posting performance. However, because the buffer is rebuilt regularly, independently of whether it has been used to its full extent, gaps between the numbers occur. These gaps also continue to exist in the Financial Accounting component, which is not permitted regarding revision.

Buffering deactivation

[+]

Procedure for Deactivating the Buffering

SAP Note 62077 (Info: Internal Number Assignment is Not Continuous) describes the detailed procedure for deactivation of buffering. This is a modification of the system, which should usually be avoided, because modifications entail additional work in the event of release changes.

In this case, however, the modification is not critical and therefore also justifiable from the point of view of the IT.

In the meantime, SAP has developed an easier solution, which you can completely implement in the standard SAP system. For this purpose, you only have to expand the parameters in the user master. Users can maintain their master using the SYSTEM • USER PROFILE • OWN DATA menu path (see Figure 4.38).

Adapting the information message

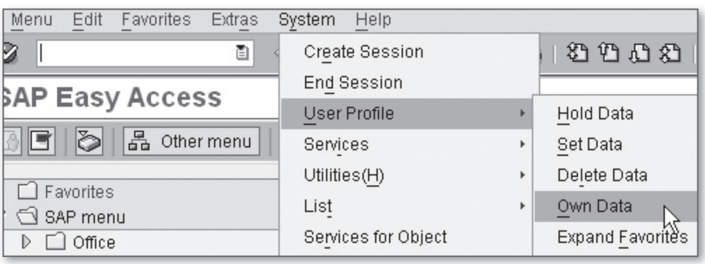


Figure 4.38 Changing the User Profile for Logistics Invoice Verification

Next, you have to specify the IVFIDISPLAY entry on the PARAMETER tab and add a large X. After you have saved the settings, the system reports both document numbers when you post incoming invoices (see Figure 4.39).

Figure 4.39 Display with MM and Financial Accounting Document Number

With this information, you considerably facilitate the work of invoice verification clerks without having to implement modifications.

[+]

Material Document Number in a Reference Field

The standard SAP system writes the number of the material document to the Reference Key field in the accounting document header. Therefore, if you want to view Financial Accounting and MM document numbers in the line item display of accounts payable accounting, you have to permit the BKPF-AWKEY field in the line item display.

You can initiate this in the Implementation Guide, for example, under Financial Accounting (new) • Accounts Receivable and Accounts Payable • Vendor Accounts • Line Items • Display Line Items • Define Additional Fields for Line Item Display.

We will now proceed with the Logistics Invoice Verification posting technologies.

Unplanned delivery costs

Logistics Invoice Verification uses MM account determination. Section 4.5.3, Determining Transactions, already described that there is a specific transaction key for unplanned delivery costs and that there are two posting options. You can make the following decisions:

- Whether you divide the additional costs between the purchase order items
- Whether you want to post a special G/L account line

For materials with moving average price, the first variant ensures that the price will be adjusted. For materials with a standard price, a posting is made in the price variances. You cannot make this decision for each case individually because it is a permanent specification at the company code level. You implement the corresponding setting in the Implementation Guide under Materials Management • Logistics Invoice Verification • Incoming Invoice • Configure How Unplanned Delivery Costs Are Posted. Unplanned delivery costs are a special invoice verification case. They are posted at the header level and not at the posting item level to allow for a cost distribution across the purchase order items if required (see Figure 4.40).

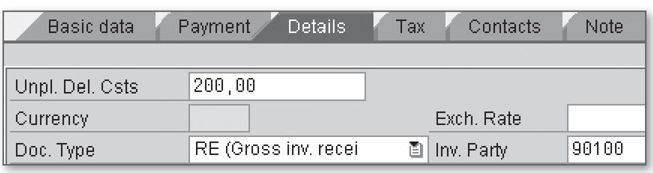


Figure 4.40 Posting Unplanned Delivery Costs

You have to post unplanned delivery costs on the Details tab. The following sections describe two posting examples.

Posting Unplanned Delivery Costs with Distribution

Figure 4.41 displays the Financial Accounting document of an invoice receipt.

C...	Itm	PK	S	Account	Description	Amount	Curr.	Tx
M001	1	31		90100	Leder Greiner	2.975,00-	EUR	VN
	2	86		191100	Goods Rcvd/Invoice R	1.000,00	EUR	VN
	3	89		300000 ❶	Inventory - Raw Mat	86,96	EUR	VN
	4	86		191100	Goods Rcvd/Invoice R	1.300,00	EUR	VN
	5	89		300000 ❷	Inventory - Raw Mat	113,04	EUR	VN
	6	40		154000	Input tax	475,00	EUR	VN

Figure 4.41 Distribution of Unplanned Delivery Costs

This document contains two purchase order items that were posted to the GR/IR account (items 2 and 4). Furthermore, you can also see that a posting to the raw materials account was made twice (see ❶ and ❷ in Figure 4.41). This indicates that the ordered materials have a moving average price because materials with a standard price would be posted to a price difference account. The unplanned delivery costs of EUR 200.00 are therefore directly added to the stock value of the two materials.

Posting of Unplanned Delivery Costs in a Separate Line

This is different for the Financial Accounting document when you do not distribute the unplanned delivery costs but instead post them in a separate line (see Figure 4.42).

C...	Itm	PK	S	Account	Description	Amount	Curr.	Tx	Cost Center	Order	Profit Center	Segment
M001	1	31		90100	Leder Greiner	2.975,00-	EUR	VN				
	2	86		191100	Goods Rcvd/Invoice R	1.000,00	EUR	VN				
	3	86		191100	Goods Rcvd/Invoice R	1.300,00	EUR	VN				
	4	40		231600	Unpl. delivery costs	200,00	EUR	VN			DUMMY	M_ZZZ
	5	40		154000	Input tax	475,00	EUR	VN				

Figure 4.42 Special Posting of Unplanned Delivery Costs

Here, you can see that the EUR 200.00 of unplanned delivery costs were posted in their entirety to account 231600. The prices of the two ordered materials are consequently not increased, and the entire amount is posted as expenditure. However, you can easily recognize the problem with this posting: The system cannot derive a useful Controlling account assignment. This means you can either treat account 231600 as a neutral account by creating no cost elements for it or, alternatively, define a standard account assignment, for example, via Transaction OKB9.

Posting without purchase order reference

In real life, you will often come across invoices that do not refer to a purchase order. In these cases, you can post the invoice without integration with MM, which is discussed in Section 4.9.1, Invoice Receipt Without MM Integration. Or you can use Logistics Invoice Verification. For this purpose, however, you have to enable this kind of posting first. You can find the corresponding Customizing in the Implementation Guide under MATERIALS MANAGEMENT • LOGISTICS INVOICE VERIFICATION • INCOMING INVOICE • ENABLE DIRECT POSTING TO G/L ACCOUNT AND MATERIAL ACCOUNTS. Transaction MIRO provides the corresponding tabs only when you enable the functions here.

4.7.2 Considering Tolerances

Acceptable variances

The procurement process can include numerous variances. Some of them can be tolerated such as differences of a few cents in an invoice due to the summation of all invoice items.

Individual tolerance limits

Other variances are not acceptable such as an obvious price difference between purchase order and invoice. To set a limit for variances you are willing to accept, you have to define tolerance limits in Customizing.

Depending on your individual situation, you can maintain various tolerances. The standard SAP system provides the following tolerances:

- AN amount for item without purchase order reference
- AP amount for item with purchase order reference
- BD form small differences automatically
- BR percentage OPUn variance (IR before GR)
- BW percentage OPUn variance (GR before IR)
- DQ exceed amount: quantity variance
- DW quantity variance when GR quantity = zero
- KW variance from condition value
- LA amount of blanket purchase order
- LD blanket purchase order time limit exceeded
- PP price variance
- PS price variance: estimated price
- ST date variance (value * days)
- VP moving average price variance

You cannot add custom tolerances to this list of what are called *tolerance keys*.

Normally, all tolerance settings have the same structure. You can define an upper and a lower limit for the variance; additionally, the variance is defined in absolute amounts and in percentages.

Definition of upper and lower limits

The definition of upper and lower limits enables you, for example, to prevent vendors from considerably exceeding or going below the price that has been agreed in the purchase order. By setting an absolute tolerance in amounts and additionally a tolerance in percentages, you avoid that you define unwanted high tolerance limits.

[Ex]

Specifying Tolerance Limits in Absolute Amounts and in Percentages

If you define the percentage for the price overrun at five percent, this would be EUR 5.00 for an invoice item of EUR 100.00. For an invoice item of EUR 100,000.00, the tolerance would be EUR 5,000.00, which is probably not what you want.

You can prohibit this system behavior by defining that a maximum of EUR 10.00 variance is allowed. With this setting, you would tolerate a price variance of EUR 5.00 in the first case and of EUR 10.00 in the second case.

You implement the Customizing of tolerance limits in the Implementation Guide under Materials Management • Logistics Invoice Verification • Invoice Block • Set Tolerance Limits. Figure 4.43 displays the definition of the tolerance limits for price variances in the Lederwaren-Manufaktur Mannheim company code as an example.

AN and AP tolerance keys

As you already know, there are numerous tolerance limits that can be checked, however, you do not have to use them all. For example, the AN and AP tolerance keys are often deactivated for the check of the permitted maximum amount for each document item.

The BD tolerance key

The BD tolerance key enables you to accept that an invoice document initially does not balance to zero. This can happen especially if the taxes for the individual items lead to a smaller amount than the tax calculation for the total net amount. To be able to post the invoice without problems in such situations, you should allow for a small tolerance of approximately EUR 2,00.

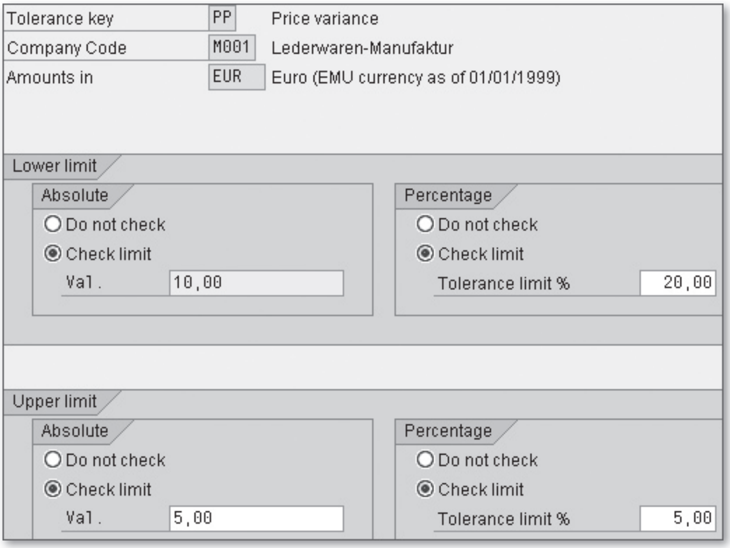


Figure 4.43 Tolerance Limits for Price Variances

PP, KW, and PS tolerance keys

Figure 4.43 displayed the PP tolerance keys for basic price variances. However, there is also a specific tolerance key (the KW tolerance key) for price variances for delivery costs.

Furthermore, there is the PS key for price variances for estimated prices. With this, the purchasing department can insert a note in the purchase order if the purchase order price is estimated. In this case, you would allow for larger variances than for normal purchase orders with fixed prices/prices agreed upon with the vendor.

[!]

Setting the PS Tolerance Key by Default

Unfortunately, some purchasers set the "estimated price" indicator regularly because they know about higher tolerance limits. This reduces the number of questions the purchaser receives from the invoice verification department. Thus, you should think twice before setting higher tolerance limits.

LA and LD tolerance keys

Finally, SAP also supports you in verifying blanket purchase orders by enabling you to define tolerances for the amount (LA key) and schedule fulfillment (LD key).

The VP tolerance key

The VP tolerance key is also quite interesting. It compares the moving average price before the invoice receipt with the moving average price after the invoice receipt. If the difference is too large, the system blocks the invoice for payment.

Outside of tolerances

If the amount exceeds or falls below all mentioned tolerances, the SAP system indicates the reason for the variance in the document and blocks the open vendor item for invoice. The system also supports you in releasing blocked invoices as you will see next.

4.7.3 Automatically Releasing Blocked Invoices

Automatic release

To automatically release blocked invoices, you use Transaction MRBR (Release Blocked Invoices). If you start the report with the automatic invoice release option, the system checks for every automatically blocked invoice if the invoice blocking reason still exists. If not, the system releases the payment block.

[Ex]

Releasing the Payment Block

For example, if no goods have been received, the system blocks the invoice due to quantity variances. After the respective goods receipt has been posted, you can pay the invoice.

If there is a price difference, you have to inform the purchasing department after having entered the invoice. This can be done manually or automatically using a workflow. If the purchasing department adapts the purchase order after having clarified the price issue, the invoice can be released for payment.

Manual release

Regardless of the elimination of the invoice blocking reason, you can also delete the invoice blocking reason manually using Transaction MRBR. For this purpose, you have to start the report using the RELEASE MANUALLY option.

[+]

Scheduling Transaction MRBR

Schedule the transaction every night using the AUTOMATIC RELEASE option and send the result list to the printer of the responsible accountant. This ensures that all invoices are released as soon as the reason for the payment block is eliminated.

This concludes our discussion of entering incoming invoices. In this context, we also came across the GR/IR account, which is described in further detail in the following section.

4.8 GR/IR Account

You already know that the goods receipt and the invoice receipt involves the *GR/IR account* if the corresponding goods receipt and the invoice receipt refers to an invoice.

4.8.1 Posting to the GR/IR Account

The WRX transaction

To allow for high automation, GR/IR accounts are also defined in the MM account determination. This was explained in detail in Section 4.5.3, Determining Transactions. You normally use the GR/IR account independently of valuation classes. Many times, only one GR/IR account is used.

Purpose of the GR IR account

From the accounting perspective, the GR/IR account is a balance sheet account that is not mapped in the financial statement because it is just a clearing account. This is discussed in more detail later on. Then what is the reason for this account?

In college, you learned the following posting record:

Material Stock		
Tax	to	Payables

In real business life, however, you will have noticed that this posting record does not exist in this form. In this posting record, the goods movement and the accrual of the payables are posted simultaneously. From the business perspective—and also according to the SCOR model—these are two different transactions: first goods receipt and then invoice receipt.

This separation of goods and invoice receipt is implemented using the GR/IR account. Figure 4.44 shows a posting example.

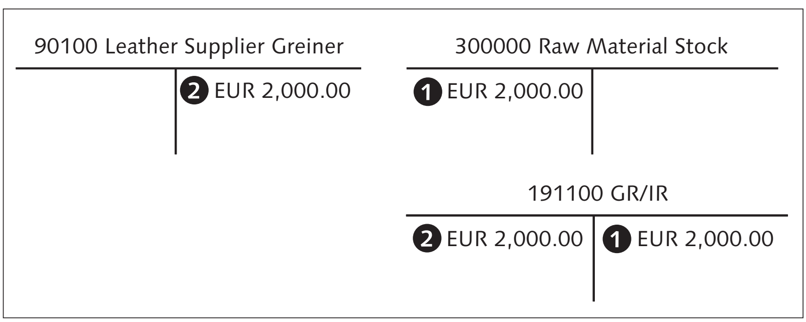


Figure 4.44 Posting Example—GR/IR Account

Let us take the previous purchase order of 10 m2 of box calf leather with EUR 200.00 each as an example—you can find the goods receipt (10 m^2) of EUR 2,000.00 and the invoice receipt (10 m^2) of EUR 2,000.00.

As agreed, the vendor delivered 10 m^2 of leather. These are posted to the material stock account for raw materials. The GR/IR account is the offsetting account. The value can be derived from the price according to the purchase order, multiplied by the actual quantity of goods received.

With the invoice receipt, the vendor account is debited. For the offsetting account assignment, the GR/IR account is used. The following is the ideal situation: The purchase order was delivered in full and invoiced and there are no quantity or price variances. Therefore, the GR/IR account is cleared for this purchase order. But the clearing cannot be implemented directly, neither through the goods nor through the invoice receipt. Instead, it is part of the GR/IR account maintenance, which must be done with urgency and on a regular basis—at the latest, when preparing closing operations.

4.8.2 Clearing the GR/IR Account

Automatic clearing

For clearing, use the function for automatic clearing of G/L accounts in Financial Accounting. You can find this function in the user menu under Accounting • Financial Accounting • General Ledger • Periodic Processing • Automatic Clearing • Without Specification of Clearing Currency (or directly via Transaction F.13). In this case, the system tries to clear open items on the account according to defined rules. You define the rules in Customizing under Financial Accounting (New) • General Ledger Accounting (New) • Business Transactions • Open Item Clearing • Prepare Automatic Clearing. Here, you can specify which fields of the open items have to match so that the items can be grouped. Figure 4.45 displays the default settings.

ChtA...	AccTy	From acct	To account	Criterion 1	Criterion 2	Criterion 3	Criterion 4
	D	A	Z	ZUONR	GSBER	VBUND	
	K	A	Z	ZUONR	GSBER	VBUND	
	S	0	999999	ZUONR	GSBER	VBUND	

Figure 4.45 Default Settings—Automatic Clearing

The definitions are made for each account type and at intervals if required. In our case, the ZUONR (assignment number), GSBER (business area), and VBUND (trading partner number) fields must match. In our small sample enterprise, the check whether these three fields match is sufficient. In real life, however, you should additionally define the purchasing document number (EBELN) and item (EBELP) for the GR/IR account. The system groups all documents that contain identical entries. If the grouped documents balance to zero, the system proposes or implements automatic clearing.

Clearing transaction

Let us have another look at the example from Section 4.7.1, Invoice Verification Process, and consider this situation for clearing via Transaction F.13. Three items are found on the GR/IR account of which two match in the relevant fields (according to the Customizing shown in Figure 4.45) so that the system identifies that they belong together. Because the group balances to zero, the system clears the open items (see Figure 4.46).

Company Code	M001
Account Type	S
Account number	191100
G/L	191100

DocumentNo	Itm	Clearing	Clrng doc.	SG	Crcy	Amount	Assignment	Business Area	Trading Partner
5000000007	002				EUR	400,00-	450001882200010		1000
*					EUR	400,00-	450001882200010		1000
5100000009	002	19.04.2009			EUR	2.000,00	450001883300010		1000
5000000008	002	19.04.2009			EUR	2.000,00-	450001883300010		1000
*		19.04.2009			EUR	0,00	450001883300010		1000

Figure 4.46 Clearing the GR/IR Account Using Automatic Clearing

Clearing document

The two document items highlighted in green are cleared. The system also displays the number of the resulting clearing document. Due to the SAP General Ledger and the activation of document splitting, there is one essential innovation for the clearing document (see Figure 4.47).

Data Entry View

Document Number	100000005	Company Code	M001	Fiscal Year	2009
Document Date	20.04.2009	Posting Date	20.04.2009	Period	4
Reference		Cross-CC no.			
Currency	EUR	Texts exist		Ledger Group	

C...	Itm	PK	S	Account	Description	Amount	Currenc
M001	1	40		191100	Goods Rcvd/Invoice R	2.000,00	EUR
	2	50		191100	Goods Rcvd/Invoice R	2.000,00-	EUR

Figure 4.47 Clearing Document from the GR/IR Account Maintenance

As you can see in Figure 4.47, the document now includes line items. Prior to the introduction of the SAP General Ledger and its document splitting, the document consisted of a document header only and no document items were posted.

Transaction F.13

Transaction F.13 provides two additional functions we used in our example: You can consider implementing tolerance limits and reduce the criteria for the grouping of documents on the GR/IR account.

- **Considering implementation of tolerances**
  Considering the implementation of tolerances for exchange rate differences and rounding differences enables you to clear documents despite small variances in the amount. The system then posts the difference to the respective expense or revenue account.
- **Reducing criteria for the grouping of documents on the GR/IR account**
  Alternatively, you can also reduce the rules for the grouping of documents. In the standard, the link is implemented via the purchase order number and item. For GR-based invoice verification, you can also implement the grouping via the material document. This is only useful if the link via the purchase order is not meaningful for, for example, scheduling agreements.

GR/IR Account Maintenance with MR11

However, Transaction F.13 does not provide support for deviating goods or invoice receipts—for example, if no goods or invoice receipts are expected for a purchase order or if the existing documents cannot be cleared due to quantity variances. You can clear them in the GR/IR account maintenance using Transaction MR11. You can find this transaction in the user menu under LOGISTICS • MATERIALS MANAGEMENT • LOGISTICS INVOICE VERIFICATION • GR/IR ACCOUNT MAINTENANCE • MAINTAIN GR/IR CLEARING ACCOUNT.

Automatic or manual start

You can start the program automatically or manually. In automatic operation, the system can write off open items for which the delivery quantity is larger than the quantity invoiced or for which the quantity invoiced exceeds the delivery quantity. If all expected goods and invoices have been received but the purchase order quantity has not been reached, you have to clear the items manually.

Posting configurations

For these transactions, you do not have to configure a specific account determination. The system works with the settings that are also used for the invoice receipt. The possible posting records depend on the price control of the materials or on the purchase order. The following posting configurations are likely:

- **Purchase orders with account assignment**
  The offsetting entry is posted to the account assignment that is defined in the purchase order.
- **Material with standard price**
  The offsetting entry is posted to the price difference account.
- **Material with moving average price**
  If the stock level is greater than/equal to the difference quantity, the posting is made to the material stock account (this corresponds to a revaluation). If the stock level covers the difference quantity, the offsetting entry is posted to the price difference account, as is the case for materials with a standard price.

Mapping in the financial statement using F.19

It has already been mentioned that the GR/IR account is not mapped in the financial statement. However, to ensure that the financial statement is correct, all values on the GR/IR account that exist at the time the financial statement is created need to be reposted to other accounts. This reposting is implemented at the period key date and reversed in the subsequent period. Both is done using Transaction F.19. When the posting is made, however, the GR/IR account is not addressed directly to set a zero balance. Rather, the zero balance is set using an adjustment account, which is mapped in one item in the balance sheet structure together with the GR/IR account. This means that the zero balance is not set on the GR/IR account but on the corresponding balance sheet item. The repostings are usually implemented on two accounts:

- An account that maps invoice receipts for which no goods have been received
- An account for goods receipts for which the vendor has not yet issued an invoice

The account determination here is not part of the MM account determination, because the postings are exclusively made in the G/L. You can find the corresponding settings in the Implementation Guide under Financial Accounting (New) • General Ledger Accounting (New) • Periodic Processing • Reclassify • Define Adjustment Accounts for GR/IR Clearing. Figure 4.48 shows an example.

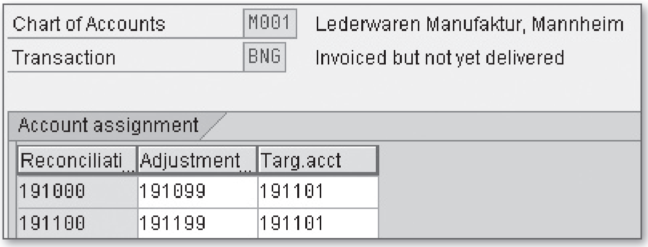


Chart of Accounts M001 Lederwaren Manufaktur, Mannheim
Transaction BNG Invoiced but not yet delivered

Account assignment

Reconciliati...	Adjustment...	Targ.acct
191000	191099	191101
191100	191199	191101

Figure 4.48 Account Determination for the Reclassification of the GR/IR Account

Here, you can see Transaction BNG (Invoiced but not yet delivered). For our 191100 GR/IR account, the 191199 adjustment account has been defined as the account to which the posting is made instead of the GR/IR account. The 191101 account is the target entry, which is mapped along with the stocks in the financial statement. It should be mapped in the financial statement because goods have been received for the received invoice, which means that a material value exists. In the other case—material has been delivered, but not invoiced—Lederwaren-Manufaktur Mannheim makes the posting to the 191102 account (Delivered but not yet invoiced). Here, you have to maintain Transaction GNB. The financial statement maps the 191102 account in other provisions. The GR/IR account and the 191199 adjustment account balance to zero, which means that the adjustment account must be mapped in the not assigned accounts, along with the GR/IR account.

Account Control of the GR/IR Account [!]

For GR/IR accounts, the balance indicator must only be set for the local currency. Otherwise, there may be problems when you clear open items with foreign currencies.

From a business perspective, this is not a problem because foreign currencies are not relevant for GR/IR accounts.

Let us now turn our attention from general ledger accounting to the subsidiary ledger—that is, accounts payable accounting.

4.9 Integration of Accounts Payable Accounting

In accounting, the FI-AP subcomponent (Accounts Payable) maps all transactions that affect vendors. FI-AP is accounts payable accounting with an integration into general ledger accounting, and its account assignment object is the vendor master. In addition to the entry of incoming invoices via Logistics Invoice Verification, which was described in Section 4.7.1, Invoice Verification Process, you can also directly enter invoices and credit memos in *Accounts Payable*.

4.9.1 Invoice Receipt Without MM Integration

Lack of integration

The lack of integration with MM and Purchasing is a problem when the data should be directly entered in FI-AP. It means that you cannot access purchase orders. You also cannot post materials that are subject to inventory management. This method is particularly suited for "minor" invoices, such as for the flower pot that is paid from the department's kitty. These transactions are often called *secondary businesses*.

Deviating document type and number

These kinds of documents are usually not posted with the RE document type, but—if you use the standard SAP system—with the KR document type for invoices and the KG document type for credit memos. Unlike the document types from Logistics Invoice Verification, these document types do not use the same number range. This—as well as the necessity of an additional input screen and the missing verification against a purchase order or goods receipt—is often the reason why invoice verification clerks do not fully accept this screen variant. You can address this by providing an option in Logistics Invoice Verification for postings to G/L accounts. This enables invoice verification clerks to enter all incoming invoices with a standardized transaction. For more information, you can also refer to the descriptions in the context of Logistics Invoice Verification in Section 4.7, Invoice Verification.

Recurring entries

The direct posting of invoices to Accounts Payable is useful, however, if you have to enter recurring documents at regular intervals. A prominent example of this is rent. In this case, the amount, account assignment, and due dates are known over a longer period and normally stay the same. To facilitate the regular posting of such documents for user departments, the SAP system provides what are called recurring entries. They work exactly like standing orders at a bank. You define the posting with the complete account assignment, the amounts, the start date, and the end date as well as the desired cycle (for example, monthly, weekly). This information is then stored in a recurring entry original document, which is an accounting document that does not trigger updating the transaction figures. You can consider it a template for the actual postings. At regular intervals, usually monthly, the system starts a job that checks all original documents and generates the respective posting if required.

This tool has the following advantages:

- Reduction of the work involved in accounting because you do not have to re-enter documents every time they recur
- Reduction of error sources because the number of manual entry operations has been reduced

[+]

The "Recurring Entries are Selected Incorrectly" Error Message

At the beginning of a new fiscal year, the Financial Accounting component administrators are frequently addressed even by experienced colleagues with the following cry for help: "I've entered a new original document, but the system does not post it! The job does not select our recurring entries correctly!"

The solution to this is usually quite simple: In the selection criteria of the processing program, a fiscal year or a variable has been defined. As a result, the system verifies the fiscal year of the original document, but not the fiscal year of the documents that are supposed to be posted. The simple solution is to not enter a fiscal year at all!

Regardless of how invoices get into an SAP system—they have to be paid sometime. This is the task of the payment run.

4.9.2 Outgoing Payments

Functional scope of the payment run

The *payment run* is an accounting tool that enables you to trigger all existing payments automatically. In many enterprises, the majority of payments refer to due vendor invoices. However, you can also pay credit memos to customers or fulfill other payment obligations. SAP supports the common methods such as payments via bank transfers, checks, bills of exchange, or lockbox procedures. These procedures are called payment methods in the SAP world.

The behavior of an individual payment run depends on different factors such as the Customizing of the payment program, the information from vendor master and single document, or the parameters of the current payment run (see Figure 4.49).

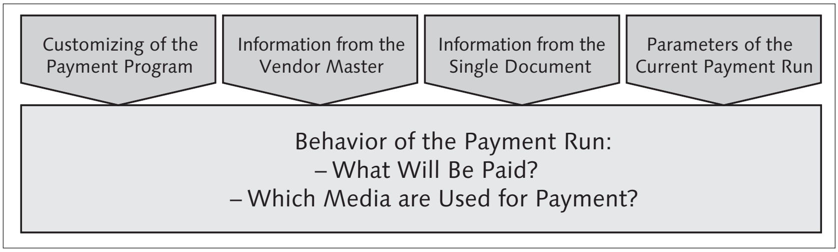


Figure 4.49 Influencing Factors of a Payment Run

Customizing of the payment program

You can find the Customizing of the payment program in the Implementation Guide under FINANCIAL ACCOUNTING (NEW) • ACCOUNTS RECEIVABLE AND ACCOUNTS PAYABLE • BUSINESS TRANSACTIONS • OUTGOING PAYMENTS. Here, for every company code that should map outgoing payments, you have to define the valid *payment methods*. For each payment method, you specify a minimum and a maximum amount, for example. Additionally, you define whether payments in foreign currencies or to foreign banks are allowed and, if required, which forms have to be printed. Furthermore, you define for each payment method which information is required, for example, the vendor address for payments by check or the bank details for bank transfers.

Bank determination

Because enterprises today typically have more than one bank account and often at different banks, bank determination needs to be configured. Here, depending on the payment methods and currencies, you can define a ranking of the *house banks* and accounts. In the standard SAP system, the bank determination is part of Customizing. An option for changing the ranking of house banks and accounts in the course of day-to-day operations is not provided. However, many users want to keep the option for possible short-term adjustments open. You can meet this user department requirement by defining tables T042A and T042D as *current settings*.

[+]

SAP Notes on Bank Determination

For further information on the exact procedure for bank determination, refer to SAP Notes 77430 (Customizing: CURRENT SETTINGS), 69642 (Planned Amounts [T042D] Cannot be Maintained), and 81153 (Bank Selection as a Current Setting).

Information from the vendor master and single document

You have two options for selecting the payment method that should be used for an individual open item: by definition in the company code-specific data of the vendor master or directly in single documents. Normally, the payment method is defined in the vendor master. You should select the option of assigning the payment method at the document level only if you want to use a specific payment method for individual documents. If a payment method is specified twice, the more specific definition wins; that is, the single document. You can always define more than one payment method in the Payment Methods field. If there are several entries, the priority of the entries decreases from the left to the right—that is, the first entry from the left usually wins.

Figure 4.50 shows an example. Here, three entries are maintained in the Payment Methods field: U for domestic bank transfer, S for payment by check, and L for foreign bank transfer. A payment run that provides for all three payment methods pays open items of vendor K1100 via domestic bank transfer because this payment method comes first. A payment run that only allows for payment by check or foreign bank transfer, in contrast, would pay the vendor invoices with a check.

The vendor master also contains the bank details.

Using the Partner Bank Type [+]

Lederwaren-Manufaktur Mannheim has a leather supplier that supplies both the German and the Belgian production. The invoices of the supplier are directly paid by the respective branch office. Let us assume that the supplier has a German and a Belgian bank account. To minimize costs, the transfers should be made nationally: Brussels makes it payments to the Belgian vendor bank account and Mannheim to the German vendor bank. You can implement this using the partner bank type.

First, create the two bank accounts in the general vendor master view. For example, the Belgian account obtains the BE partner bank type and the German account the DE partner bank type. All invoices of this supplier that specify the BE partner bank type are now paid against its Belgian bank account and all with the DE partner bank type against the German account.

If the document does not define a partner bank type, the system always uses the first bank in the vendor master.

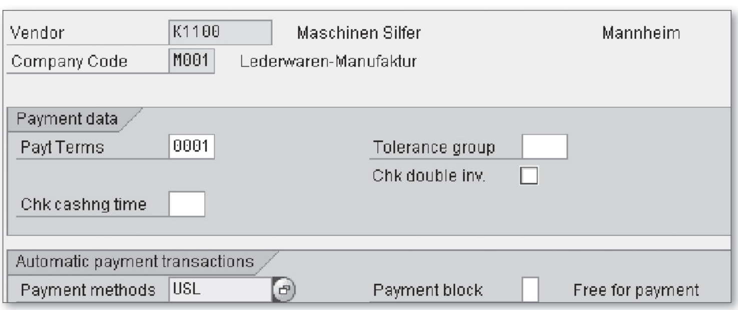


Figure 4.50 Payment Methods in the Vendor Master

Payment run parameters

The payment run also allows you to set parameters you can use to configure the payment of open items. To do so, navigate to the payment run using Transaction F110 or in the user menu via Accounting • Financial Accounting • Accounts Payable • Periodic Processing • Payments. Here, you have to specify a scheduled execution day as well as an alphanumeric ID. It is important to know that the day of the execution is not relevant for the open items that are supposed to be selected or the value date of the payment. These are defined in the payment run.

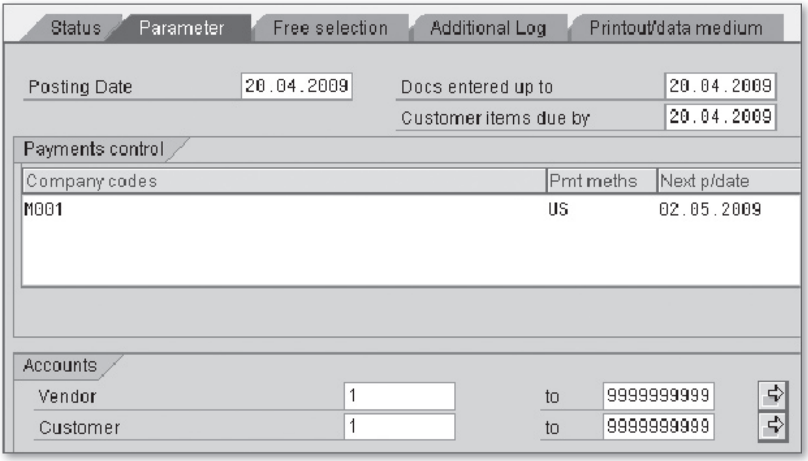


Figure 4.51 Definition of the Parameters in the Payment Run

Figure 4.51 shows an example of the *parameter definition* in a payment run. Here, you can find the posting date that is used for the accounting documents. You use the Documents entered up to and Customer items due by fields to define which documents should be considered. In addition, you must enter various vendor and/or customer accounts that the payment run should take into account.

The payment run defines for which Company Codes payments are made and which Payment Methods are considered. In this case also, the rule applies that the payment method on the very left has a higher priority than the one on its right. Via the date in the Next posting date field, the SAP system determines which open items that are not yet due have to be paid. Let us look at an example of an open item that is due on 08/15 (see Table 4.6).

Payment Run Date	Next Posting Date	Behavior
08/10	08/12	The document is not paid because the next payment run takes place before the due date (08/15).
08/10	08/18	The document is paid because it would be overdue for three days in the next payment run (08/18).

Table 4.6 Due Date and Payment

Grace days

However, you can also set grace days for yourself in Customizing. For example, if you define three grace days for this example, the open item will not be paid on 08/10 in the second case.

[+]

Activating the Additional Log

The SAP system allows for easy logging of the payment run, which enables you to easily track why the SAP system has (or has not) paid an open item or why a discount is used (or not).

For this purpose, you need to activate enhanced logging for the payment run on the ADDITIONAL LOG tab. This is strongly recommended for all vendors and customers considered in the payment run.

Payment proposal

During the further course of the payment run, the system creates a payment proposal. You can modify it by blocking items for payment or releasing blocked items for payment. However, this blocking (or releasing) of invoices applies only to this specific payment run. If you want to permanently block an invoice payment, you have to directly navigate to the document using Transaction FB02 and set a permanent payment block there.

[+]

Permanent Payment Block Overrides Bank Account Determination

Especially in medium-sized enterprises, the decision of which invoices will be paid and which will not be paid is made without system support. The enterprises often suspect that invoices could be paid "by mistake." However, you cannot block all invoices for payment by default because a payment block in the document prevents the system from determining the paying bank in the payment run. This means that if you release the payment block when modifying the payment proposal, you have to manually select the bank account from which you want to make the payment.

It is only during the update run that the system makes a posting "vendor to bank clearing" and thus clears the open item. In the last step, you can send a payment medium file to the bank or print payment advices, checks, bills of exchange, and so on.

After your bank has executed the payment request, the purchasing process is complete from the accounts payable accounting view. But there is still another leg of the value flow, which leads you from the invoice receipt directly to G/L accounting and maps the taxation of purchases.

Although numerous tax types are involved when purchasing goods or services, we want to focus on a widely used type: the tax on sales/purchases.

4.10 Mapping the Tax on Sales/Purchases

Tasks of the tax code

In the SAP system, the tax code is the central object for mapping tax on sales/purchases. It defines the type as well as the calculation and posting of taxes.

Tax codes enable you to map the input and output tax. There are also tax codes for the handling of withholding taxes, which are particularly critical in Southern Europe. They will not be discussed in further detail here.

Attributes of a tax procedure

You can find the settings for the tax on sales/purchases centrally in the Financial Accounting component. Customizing takes place in the Implementation Guide under FINANCIAL ACCOUNTING (NEW) • FINANCIAL ACCOUNTING GLOBAL SETTINGS (NEW) • TAX ON SALES/PURCHASES. The standard SAP system provides country-specific pricing procedures, called tax procedures, which meet country-specific basic taxation conditions. However, you should always check the settings for any new SAP system implementation.

Scope of tax procedures

You need to assign a tax procedure to every country in which you perform business transactions that are subject to taxes on sales/purchases. In turn, the tax procedure is assigned a tax code. This means that tax procedures must include all required tax types and rates in the form of tax codes. For example, if accounts need to be assigned for Belgian taxes on sales/purchases for an incoming invoice in Germany, a code is required that enables you to determine the Belgian tax correctly and clearly identify it for the tax return later on.

Maintaining tax codes

You maintain the tax codes using Transaction FTXP. The system indirectly determines which tax code is used by initially querying the country. Let us continue with the VN tax code, which was already used in the sample postings (see Figure 4.52).

Country Key	DE	Germany
Tax Code	VN	16% domestic input tax
Procedure	TAXD	
Tax type	V	Input tax

Percentage rates

Tax Type	Acct Key	Tax Percent. Rate	Level	From Lvl	Cond. Type
Base Amount			100	0	BASB
Output Tax	MWS		110	100	MWAS
Input Tax	VST	19,000	120	100	MWVS
Interest markdown	ZAS		125	100	ZAST
Travel Expenses (%)	VST		130	100	MWRK
Non-deduct.Input Tax	NAV		140	100	MWVN
Non-deduct.Input Tax	NVV		150	100	MWVZ
Acqu.Tax Outgoing	ESA		200	100	NLXA
Acquisition Tax Deb.	ESE		210	200	NLXV

Figure 4.52 Maintaining the VN Tax Code

This example shows the input tax code for a taxation of 19 percent. To determine the tax amount, the system uses only active lines of the procedure. You can identify them because they are highlighted in blue writing. In this example, it is level 120.

Account determination

The account determination is also defined at the tax code level. This means that you only have to specify the tax code in the posting process. The system can then assume the determination and posting processes. Both in the procurement process and in the sales and distribution process, this provides for significant advantages for the upstream MM and SD components. They only have to identify the correct code; the Financial Accounting component then assumes further processing. The tax procedure also defines the basic screen, including the lines.

Figure 4.53 provides a schematic overview of the Customizing.

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Transferring the Sales Tax Code

Sales tax codes have the disadvantage that they may not be correctly transferred to the target system. The SAP system therefore provides a download and upload function for which the target client needs to be modifiable. When you create individual codes, the direct maintenance is usually less time-consuming in the target system.

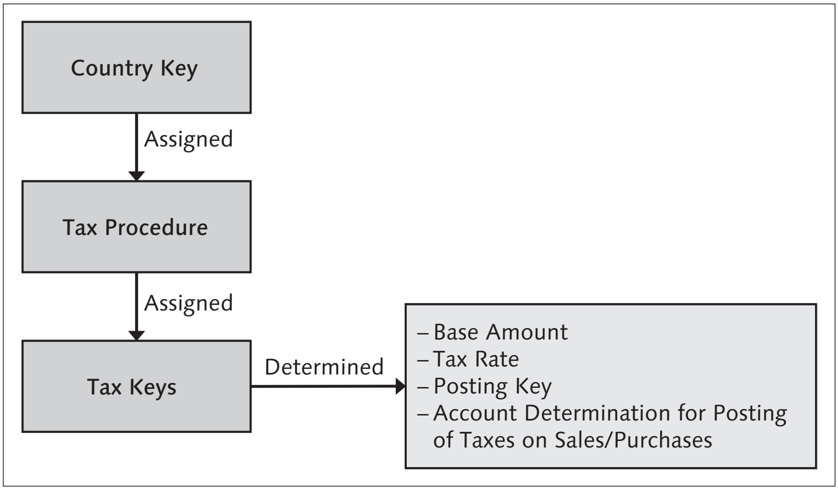

Figure 4.53 Schematic Illustration of the Customizing for the Tax on Sales/Purchases

Enjoy transactions

When creating new sales tax codes, there is an additional step you need to perform. You have to permit the new code for what are called Enjoy transactions. In contrast to older transactions, for example FB01 (General Posting), these transactions—such as FB50 (Enter G/L Account Document) and FB60 (Enter Invoice)—enable you to enter all specifications in one screen. You register the tax codes using Transaction OBZT (Tax Code Selection for Transactions), which you can find in the Implementation Guide, for example, under Financial Accounting (New) • Accounts Receivable and Accounts Payable • Business Transactions • Incoming Invoices/Credit Memos • Incoming Invoices/Credit Memos - Enjoy • Define Tax Code per Transaction.

Here, depending on the country keys (required for determining the tax procedure) and tax codes, you can define for which posting procedures a code is available in the Enjoy transactions. The following posting procedures are available:

- (Logistics) invoice verification
- Invoice receipt for financial accounting
- Invoice issue for financial accounting
- All transactions

You usually should not use the “all transactions“ selection because this way, for example, you also provide tax codes for the output tax to users who want to enter incoming invoices. You must assign the input tax codes both to the invoice verification and to the invoice receipt in Financial Accounting to allow for the use in Logistics Invoice Verification and within Accounts Payable.

If you forget this setting, you created the sales tax code but the system cannot use it in operational business.

4.11 Summary

This chapter explained that the purchasing process is characterized by high integration of inventory management in the MM component with Financial Accounting and Controlling. You already have to define many aspects in a purchase requisition or purchase order that control the remaining value flow.

If commitments management is enabled, Controlling is already supplied with information when a purchase requisition or purchase order is created. By creating a commitment, you can identify potential budget overruns before the actual value flow—that is, when the goods or invoices are received.

MM account determination is the central element for controlling the value flow in the purchasing process. It is quite complex but also ensures high automation in the process flow. If you do not want to configure account determination manually, you can use the account determination wizard. This wizard asks the most important questions, which were also introduced in this context. While the goods receipt usually does not pose any problems regarding the integration, the invoice receipt covers special cases. MM account determination is used here as well, for example, to map exchange rate differences or small price differences. Invoice verification enables you to set tolerances to block factually incorrect invoices for payment.

You usually link the goods receipt and the invoice receipt via a GR/IR account. Its maintenance is critical for correct mapping in the financial statement but is often neglected in real life.

However, the invoice receipt ensures the integration with accounts payable accounting by creating an open item on the vendor account that can be paid later on.

Except for commitments management, MM account determination, and goods receipts for purchase orders with account assignment, the topic is driven by accounting rather than cost accounting and the focus will probably be on invoice verification.

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