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SAP® CO-PA Configuration (Profitability Analysis)

Kathrin Schmalzing

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The Author of this E-Bite

Kathrin Schmalzing is a manager at one of the "Big Four" consulting firms, where she specializes in FI and CO implementations, business process analysis and transformation, and value flow analysis. Kathrin has been working in CO for more than 15 years, and has been involved in multiple end-to-end implementations of SAP's financial solutions.

Learn more about Kathrin Schmalzing at *www.sap-press.com/4484*.

What You'll Learn

With Profitability Analysis, you can analyze your sales and cost of goods sold with free-defined characteristics and value fields and then calculate your profit contributions. In this E-Bite, you'll learn how to configure costing-based Profitability Analysis, which is the most common form of Profitability Analysis in traditional SAP ERP. We begin with a close look at the Profitability Analysis master data, and then track the flow of actual values through your system. The E-Bite then covers valuation and planning, followed by the creation of forms and reports for your Profitability Analysis data.

This E-Bite is an excerpt from *Configuring Controlling in SAP ERP* by Kathrin Schmalzing.

1   Before You Begin

Profitability Analysis is a submodule of the SAP ERP Controlling module for which there is no template, meaning that each customer structures Profitability Analysis according to its specific needs. So before we configure Profitability Analysis, we should briefly review a few controlling basics.

Recall that the highest organizational element in the SAP organizational structure is the operating concern. The operating concern serves as a valuation level for Profitability Analysis and needs to be created before Profitability Analysis can be used. You can assign multiple controlling areas to an operating concern. Those controlling areas must all have the same fiscal year variant, though they can have different charts of accounts. You can't create reports in SAP that contain data of *different* operating concerns, so you should assign all controlling areas to one operating concern if you want to create a group reporting.

There are two different types of Profitability Analysis:

- Costing-based Profitability Analysis
- Account-based Profitability Analysis

Costing-based Profitability Analysis is the type that is used the most. Account-based Profitability Analysis can be activated alone or in addition to costing-based Profitability Analysis.

Note

With SAP S/4HANA Finance, the use of account-based Profitability Analysis is recommended because data from account-based Profitability Analysis is stored in the same database table as the SAP ERP Financial Accounting and Controlling documents. To activate the new Profitability Reporting in SAP S/4HANA Finance, you must activate account-based Profitability Analysis. With SAP S/4HANA Finance, the features of account-based Profitability Analysis get enhanced.

The main difference between both types of Profitability Analysis is that costing-based Profitability Analysis works with value fields and characteristics, whereas account-based Profitability Analysis works with General Ledger accounts and characteristics.

To make a decision regarding which Profitability Analysis is most suitable for you, consider the following comparison.

Costing-based Profitability Analysis does the following:

- Allows you to transfer the incoming sales orders to Profitability Analysis
- Allows you to value sales with different costing sheets or with multiple cost estimates
- Allows you to work with statistical costs

Account-based Profitability Analysis does the following:

- Facilitates reconciliation with Financial Accounting

- Shows you the exact value of your cost of goods sold (COGS) when you sell lots of your finished goods with moving average price (in costing-based Profitability Analysis, this can lead to variances in COGS)

We'll focus in this E-Bite on costing-based Profitability Analysis because this is the most common form of Profitability Analysis in traditional SAP ERP. (Further, the features of account-based Profitability Analysis change with SAP S/4HANA Finance.)

The cost assignment object in Profitability Analysis is the profitability segment. The profitability segment is a multidimensional object whose dimensions correspond to the characteristics that are assigned to the operating concern, as shown in Figure 1.

In this example, the characteristics Product, Customer, and Country illustrate a reporting dimension. In reporting, those dimensions can be used in multiple ways to analyze data on a high or very detailed level.
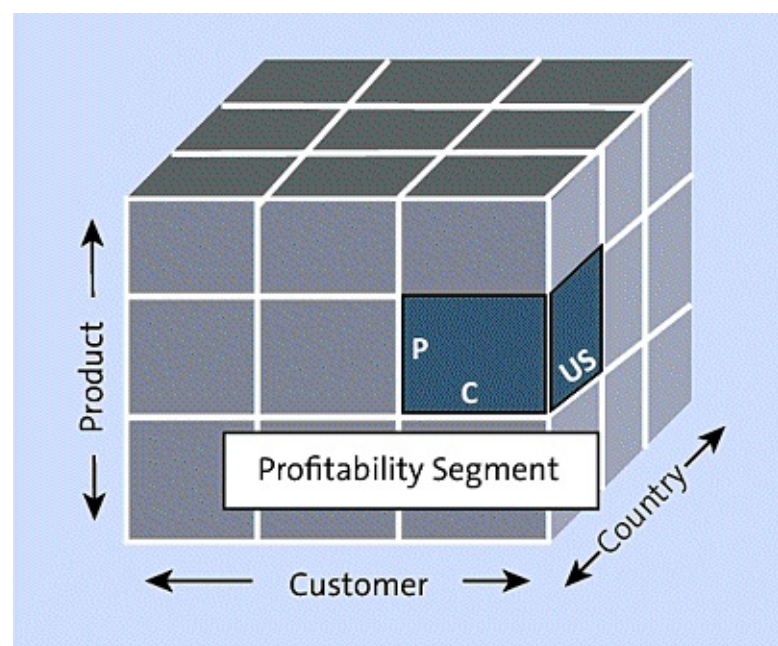
Figure 1 Function of Profitability Analysis

Because there's no such thing as "standard" Profitability Analysis, you need to define the structure of Profitability Analysis according to your reporting needs and your business structure. Profitability Analysis receives actual data from all of the modules that you've already configured, as well as the Logistics modules. Figure 2 shows how actual data gets transferred into Profitability Analysis. On the right side of the figure, you can see an example of a value field structure in costing-based Profitability Analysis. The arrows on the left show possible ways the values can be fed into the value fields.

- **Sales and Distribution**
  In costing-based Profitability Analysis, the pricing conditions get mapped to value fields. When you create a billing invoice, the sales, sales volumes, rebates, and any other deductions are transferred to Profitability Analysis. You can also transfer quantities and values of incoming sales orders before the

billing invoice is created.

- **Materials Management, Production Planning, and Product Costing**
  With the transfer of the billing invoice, COGS get transferred to Profitability Analysis. You can either transfer the cost represented in the sales document or value the sales quantities with any or multiple cost estimates. You can split the cost estimate in the cost component structure. This allows a detailed contribution margin accounting in Profitability Analysis. Further, you can value the sales quantity with different cost estimates to make diverse comparisons of contribution margin.

- **Overhead Cost Controlling**
  Cost centers are transferred with an assessment cycle to Profitability Analysis. To transfer internal orders to Profitability Analysis, you need to create a settlement rule with category PSG (profitability segment).

- **Financial Accounting**
  Cost elements can be directly transferred to Profitability Analysis when they are assigned to a Profitability Analysis transfer structure during configuration or maintained in a default account assignment.
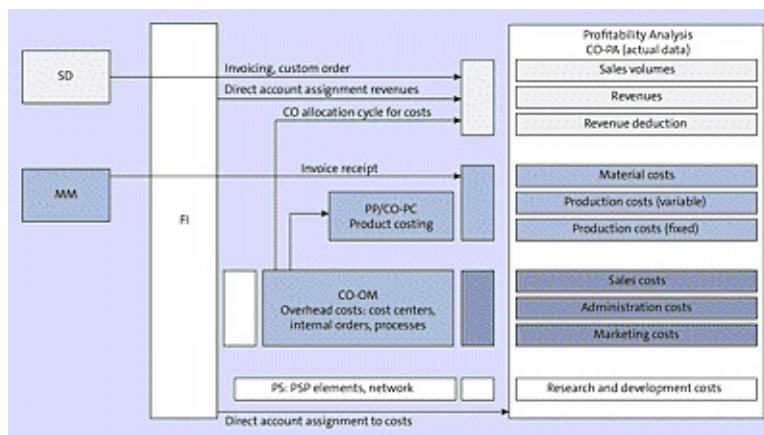

Figure 2   Value Flow in Profitability Analysis

- **Project System**
  You can also settle projects and networks to Profitability Analysis. Just like internal orders, projects and networks need to have a settlement rule with category PSG (profitability segment) maintained.

In this E-Bite, you'll learn about the structures of the operating concern and how to create and assign value fields and characteristics to your operating concern. We'll first explore how to create characteristics hierarchies and characteristics derivations so that you can be flexible in creating additional characteristics and better analyze your values in Profitability Analysis.

Then we'll show you how to configure the actual values flow into Profitability Analysis and how to maintain the interfaces to obtain values from other modules in Profitability Analysis. You'll learn how to set up and analyze the value flow explained with the help of Figure 2, and then how to valuate your sales with different cost estimates. After showing you all about actual values, you'll learn about planning in Profitability Analysis to allow actual and plan comparisons. Last you'll learn how to use the reporting

tools in Profitability Analysis, and we'll take a brief look at how SAP HANA impacts the configuration of Profitability Analysis.

2 Master Data

The master data in Profitability Analysis are part of configuration. Value fields and characteristics can be defined based on your organization's needs, but you should note that there's a technical limitation on the number of characteristics and value fields you can assign to an operating concern.

2.1 Value Fields

Value fields only exist in costing-based Profitability Analysis and are used to represent the sales and costing blocks. Costing-based Profitability Analysis doesn't use General Ledger accounts/cost elements. Value fields are used to structure the profit contribution. You can create value fields for quantities or values. It's technically possible to assign up to 120 value fields to an operating concern, but if you want to assign more than 120 value fields, you should consult SAP Note 160892 (More Than 120 Value Fields) to learn how.

To create a value field, go to Transaction KEA5 or follow the IMG path **Controlling • Profitability Analysis • Structures • Define Operating Concern • Maintain Value Fields**. In standard-issue SAP, there are some value fields already preconfigured that can be assigned to your operating concern.

To get an overview of all value fields, select the **All Value Fields** radio button in the **Choose Value Fields** area, and click on the **Display** button. The system shows you a table with the technical name, the description, the short text, and a checkbox to determine whether the value field is used to record quantities or values. You can check whether you can reuse one of those value fields or create your own value fields in the **Create Value Field** area of the screen. All value fields that you create on your own need to start with **VV** and have five digits in total. You can either use numbers or letters to fill up the three additional digits (in Figure 3, this is **VV999**).

Figure 3 Creating a Value Field

Click on the **Create/Change** button to create the value field. In Figure 4, you see the fields that need to be maintained in a value field:

- **Description**
  Enter text that describes the value field.

- **Short Text**
  Enter a headline or keyword of the value field.

- **Agg. (Time)**
  Define whether quantities on the value field are summed up or not.

- **Value Field Type**
 Define a value field for either quantities or values.

Figure 4   Defining Attributes for the Value Field

After you maintain the value field, you need to activate it with the **Activate** icon (the matchstick, ⚟)
before you save it. Now the value field is available in the list of all value fields and can be assigned to
your operating concern. You'll learn how to assign a value field to an operating concern in <u>Section 2.3</u>.

2.2   Characteristics

Characteristics are the lowest level of analysis in both costing-based and accounting-based Profitability Analysis. Characteristics are derived when a profitability segment (Profitability Analysis document) is created. A fixed set of characteristics is automatically assigned to the operating concern. This fixed set contains characteristics such as controlling area, company code, and so on. In addition to those fixed characteristics, you can create up to 50 additional characteristics and assign them to your operating concern.

To create characteristics, use Transaction KEA5 or follow the IMG path **Controlling** • **Profitability Analysis** • **Structures** • **Define Operating Concern** • **Maintain Characteristics**. Like value fields, there is a set of preconfigured characteristics that can be displayed. To get an overview of all characteristics, select **All Characteristics** in the **Choose Characteristics** area, and click on the **Display** button. The system shows you a table with the technical name, the description, the short text, the length of the characteristics, and the reference table. You can check whether you can reuse one of those characteristics or create your own characteristics in the **Create Characteristics** area of the screen.

Characteristics can either be created with respect to an existing characteristic out of an SAP data table, or they can be user defined. All user-defined characteristics that you create need to start with **WW** and have five digits in total. You can either use numbers or letters to fill up the three additional digits.

First we'll show you how to transfer a characteristic from an existing SAP table. Click on the **Create/Change** button to create a characteristic from an existing SAP table. Don't enter a value in the **Char.** field. You'll see a pop-up as shown in Figure 5. Choose **Transfer from SAP table**, and select one of the offered SAP tables in the **Table** field:

- KNA1: General Data in Customer Master
- KNB1: Customer Master (Company Code)
- KNVV: Customer Master Sales Data
- MARA: General Material Data
- MARC: Plant Data for Material
- MVKE: Sales Data for Material
- PAPARTNER: SD Partner that can be used in Profitability Analysis
- PARETAIL: Retail Fields that can be used in Profitability Analysis
- PRPS: WBS (Work Breakdown Structure) Element Master Data
- T001W: Plants/Branches
- VBAK: Sales Document: Header Data

- VBAP: Sales Document: Item Data

- VBKD: Sales Document: Business Data

If you don't know in which table the characteristic you want to add is stored, go to the characteristic, and press (F1) for help. In the pop-up, click the tools icon for technical details, and you'll find the data table name in the **Table Name** field in the **Field Data** area.
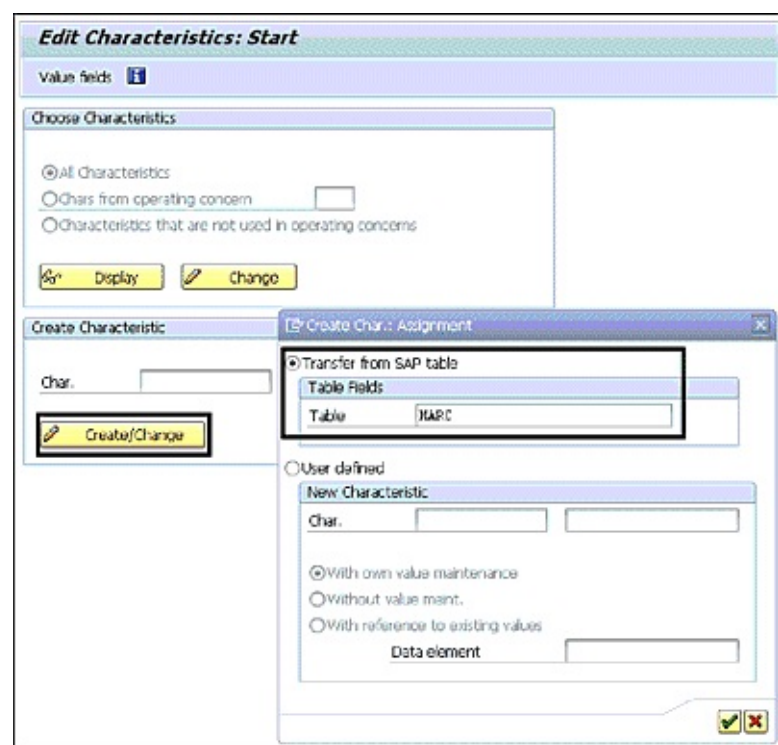

Figure 5   Creating Characteristics from an SAP Table

After you choose the table and confirm your choice by pressing (Enter), you see a list of characteristics of that table, as shown in Figure 6. Characteristics that can be created have a white background, and all other characteristics with a light blue background are either already created as a characteristic or can't be added due to technical reasons in the operating concern. Select the characteristic you want to add, and press (Enter). You can only create one characteristic at a time.
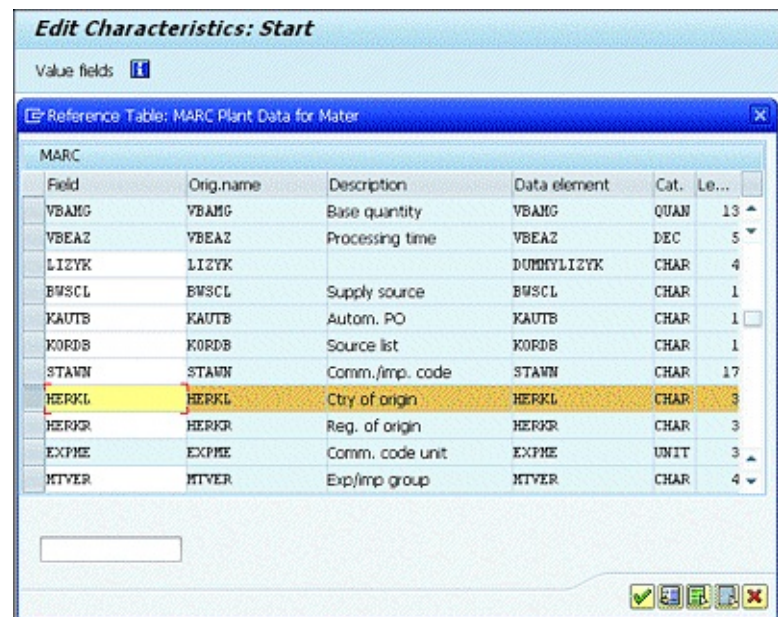
Figure 6   Choosing a Characteristic from the Reference Table

In the next screen, you just need to save and activate the characteristic. To activate the characteristic, click on the matchstick icon shown in Figure 7. After you've done this, you can add it to the operating concern.

Figure 7   Activating a Characteristic

To create a user-defined characteristic, you need to follow the same IMG path. Enter a characteristic starting with "WW" in the **Char.** field of the **Create Characteristic** area (in Figure 8, this is **WW999**), and enter a description ("Continent") before clicking on **Create/Change**. In the pop-up shown in Figure 8, you need to determine what type of characteristic you want to create:

- **With Own Value Maintenance**
  When creating a characteristic with own value maintenance, the system will create data tables for the value maintenance in the background. Alternatively, the data tables can be created manually, which isn't recommended. You need to maintain your own values for the characteristic. In the following figures, we'll show you how to create a characteristic with own value maintenance.

- **Without Value Maint.**
  When creating a characteristic without value maintenance, you won't be able to maintain any values for the characteristic. That means there is no set of allowed characteristic values and sets.

- **With Reference to Existing Values**
  When creating a characteristic with reference to existing values, the new characteristic gets assigned to a characteristic with values that already exist in the system. The new characteristic takes on exactly the same attributes as the assigned characteristic.

Confirm the choices you've made in the pop-up by pressing (Enter).
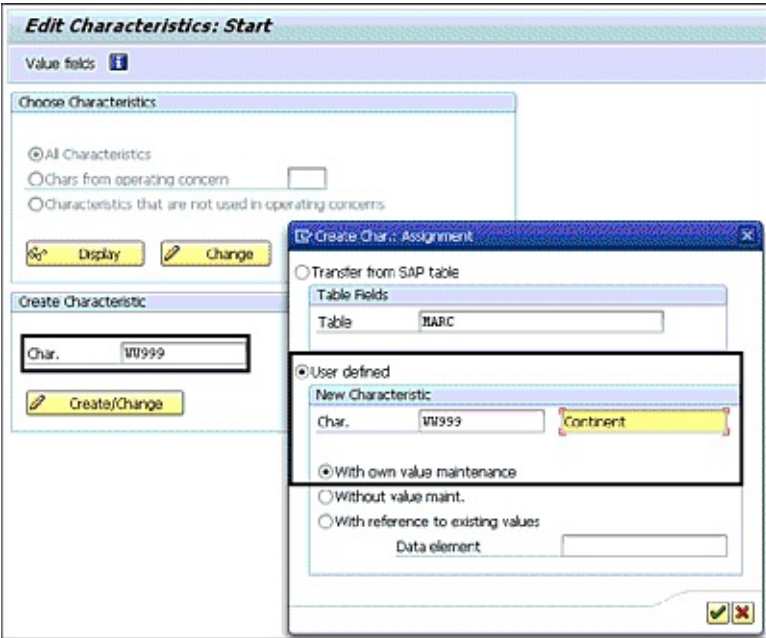
Figure 8   Create a Characteristic with Own Value Maintenance

In the screen shown in Figure 9, you need to maintain a short text ("Continent") and a header ("Continent") in the **Texts** area. The description ("Continent") gets copied from the screen where you created the characteristic but can be changed in this screen. In the **ABAP Dictionary** area, you determine whether the value maintenance will be numeric (**NUMC**) or alphanumeric (**CHAR**) in the **Data Type/Length** field. Maintain the length of the characteristic (**3**).
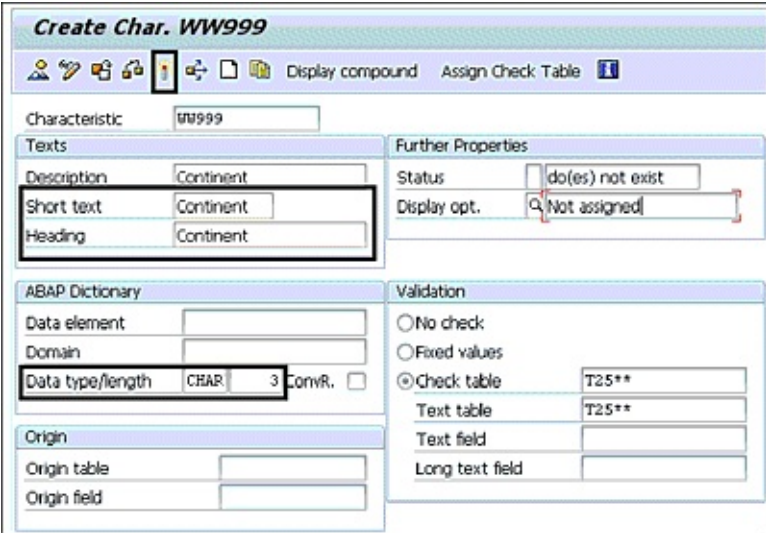
Figure 9   Maintain Attributes of Characteristics

After you've made your entries, activate the characteristic. You'll see the pop-up shown in Figure 10. We recommend that you let the system create the check table for the new characteristic. Therefore, you need to choose **Automatic** in the pop-up. The system creates the check tables in the background. After the activation of the characteristic and the creation of check tables, you need to save the characteristic before you can assign it to the operating concern.
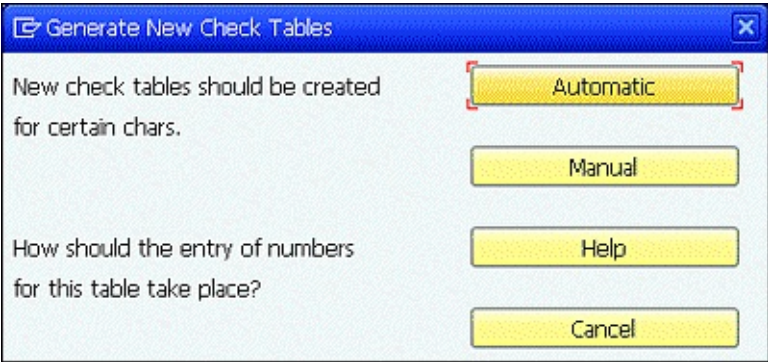
Figure 10   Generating Tables for New Characteristics

After the assignment of the characteristic with own value maintenance to the operating concern, you need to maintain the characteristic values. Go to Transaction KES1 or follow IMG path **Controlling** • **Profitability Analysis** • **Master Data** • **Characteristic Values** • **Maintain Characteristic Values**. You see an overview of all user-defined characteristics that are assigned to the operating concern as shown in Figure 11.
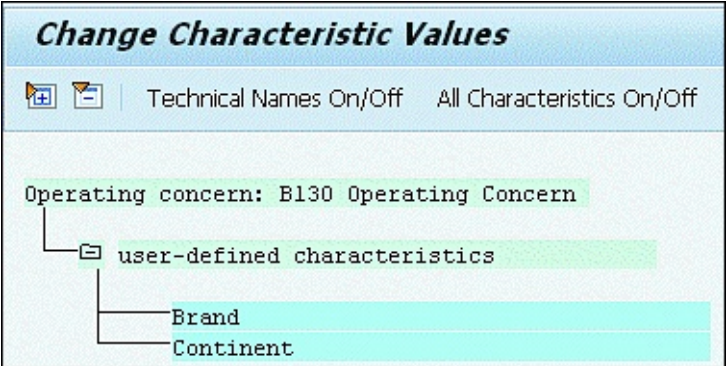
Figure 11   Create Characteristic Values Screen

When you double-click on the **Continent** characteristic, the next screen opens where you can maintain the characteristic values by selecting **New Entries**. Previously in Figure 9, we maintained the **Continent** characteristic as alphanumeric and with a length of **3**. In Figure 12, we maintained some values for the characteristic continent (**NAM** for **North America**, **SAM** for **South America**, and **EUR** for **Europe**). Because this characteristic can't be derived automatically (it doesn't get populated in any documents that will be transferred to Profitability Analysis), you need to maintain a characteristics derivation as explained in Section 2.5.
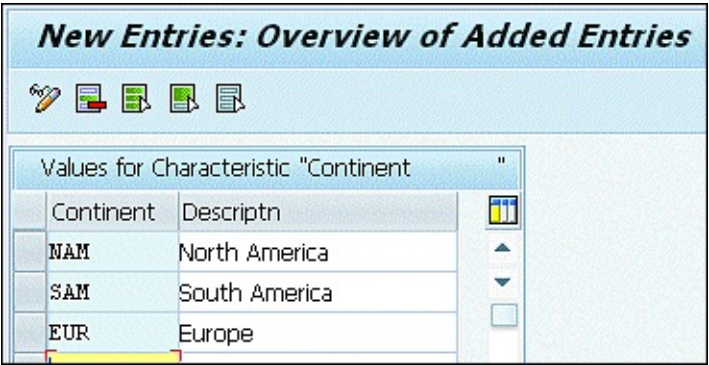
Figure 12   Maintaining Characteristic Values

2.3   Maintain an Operating Concern

All characteristics and value fields have to be assigned to the operating concern. After you create the operating concern, you need to assign the controlling areas to it. You can assign multiple controlling areas to one operating concern if they all have the same fiscal year variant.

To create or maintain an operating concern, go to Transaction KEA0 or follow the IMG path **Controlling • Profitability Analysis • Structures • Define Operating Concern • Maintain Operating Concern**.

The operating concern has a four-digit name and a description. In the **Data Structure** tab, you also define the type of profitability analysis. You can select either the **Costing-based** or **Accounting-based** checkboxes in the operating concern or both. Note that the document volume will double if you select both costing-based and accounting-based Profitability Analysis.

Before you can assign characteristics and value fields to the operating concern, you need to save the operating concern by clicking on the floppy disk icon. Only then can you assign characteristics and value fields to the operating concern by clicking on **Create** in the **Data Structure** area shown in Figure 13 .
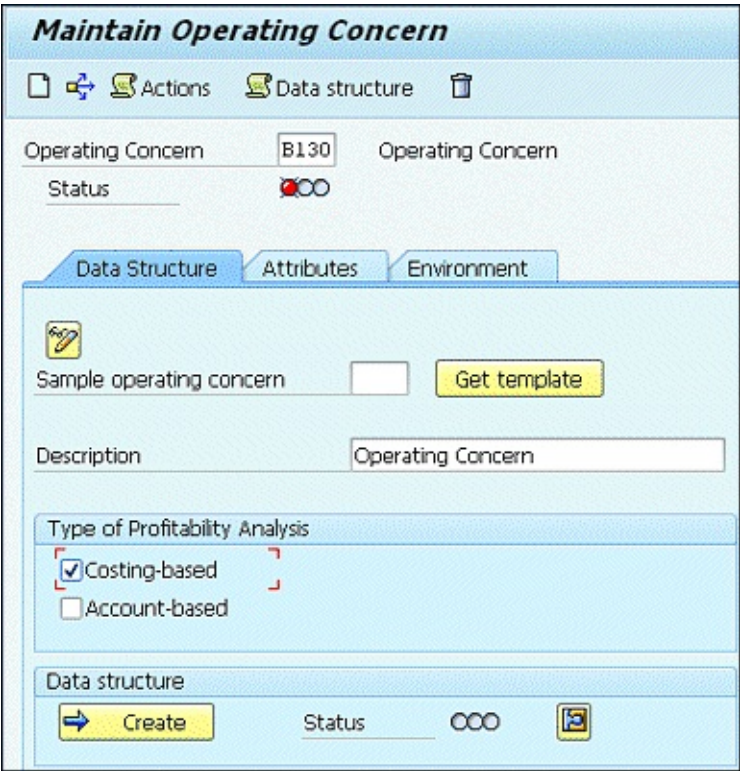
Figure 13   Creating an Operating Concern

A new screen opens as shown in Figure 14. The screen has two tabs. In the **Chars** tab, you can assign characteristics to your operating concern, whereas in the **Value Fields** tab, you can assign value fields.

Each tab is divided into two parts. The **Data Structure** area on the left shows all characteristics that are already assigned to the operating concern. The **Transfer From** area on the right part of the tab contains all characteristics that could be assigned to the operating concern. Assign the characteristics to the operating concern using the arrows between the **Data Structure** area and the **Transfer From** area. Be careful here;

it's technically very hard to *reassign* characteristics or value fields from the operating concern, especially when postings have already been made.

In total, you can assign 50 characteristics to the operating concern.
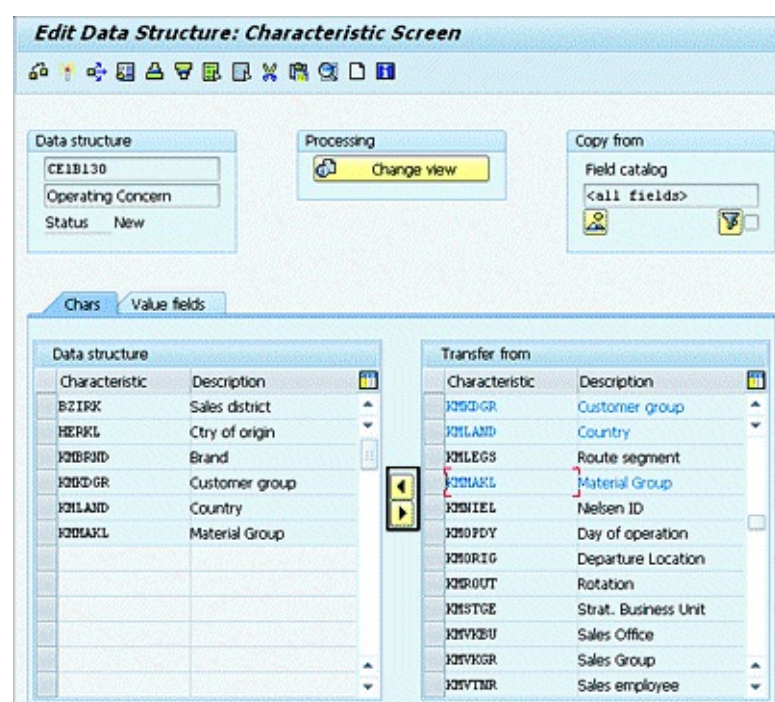

Figure 14   Assigning Characteristics to the Operating Concern

There are a number of fixed characteristics that are assigned to every operating concern. These fixed characteristics can be displayed by following the menu path **Extras • Display Fixed Fields**.

The fixed fields are divided into three tabs, as shown in Figure 15:

- **Charact.** (characteristics)
  In this tab, you'll find the basic organizational objects, such as controlling area, company code, and so on, as well as the basic account assignment objects, such as sales order, internal order, and so on.

- **Techn. Fields** (technical fields)
  In this tab, you'll find basic objects, such as dates, currencies, cost elements, and so on.

- **Acctg Amounts** (accounting amounts)
  In this tab, you'll find quantity and amounts.
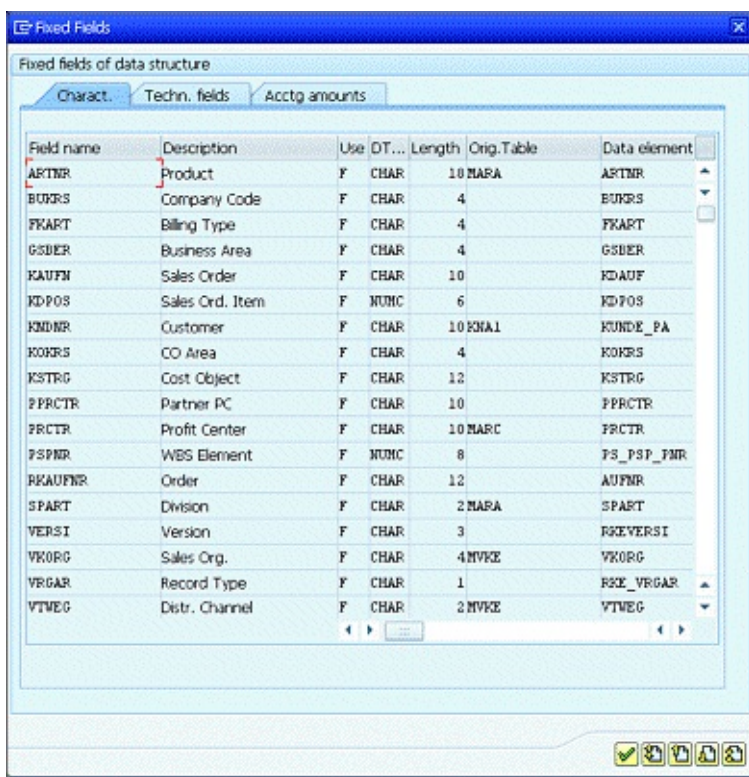
Figure 15　Displaying Fixed Characteristics

After you've assigned all the characteristics you want to report on in Profitability Analysis, you need to move on and assign the value fields to the operating concern. Remember that value fields are only required when working with costing-based Profitability Analysis. To assign value fields, you remain in the same transaction and just change the tab. Go from the **Chars** tab to the **Value Fields** tab**.** The **Copy From** table provides an overview of all value fields that can be assigned to the data structure of the operating concern. Select whichever amount and quantity value fields you want to assign to your operating concern, and use the arrows between the **Data Structure** and **Copy From** areas to assign them to the operating concern, as shown in .
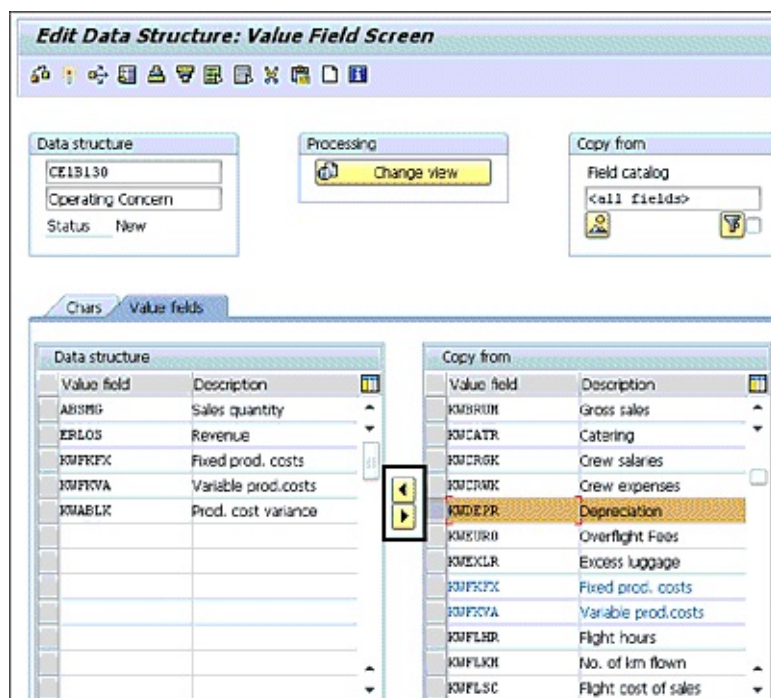
Figure 16　Assigning Value Fields to an Operating Concern

Now that you've assigned the characteristics and value fields to the operating concern, save them and activate them with the matchstick icon. You'll see a pop-up asking if you want to generate the operating concern environment. Confirm this pop-up with **Yes**.

After generating the operating concern environment, you'll get back to the maintenance of the operating concern, beginning with its attributes. In the **Attributes** tab, the operating concern currency gets maintained in the **Currency Types for Costing-Based Profitability Analysis** area. The operating concern currency is the currency in which the values are displayed or planned.

In addition, you can select that actuals are updated in the following currencies:

- **Company Code Currency**

- **OpConcern crcy,PrCtr valuation (Operating Concern Currency, Profit Center Valuation)**

- **Comp.Code crcy,PrCtr valuation (Company Code Currency, Profit Center Valuation)**

Planning data only will be updated in the operating concern currency, whereas actuals will be updated in all activated currencies. In Figure 17, the operating concern currency is USD, and the company code currency is activated.

Figure 17   Maintaining Attributes in the Operating Concern

The **Fiscal Year Variant** field is maintained in the **Attributes** tab of the operating concern. All controlling areas that will be assigned to the operating concern must have the same fiscal year variant as the operating concern; otherwise, an assignment isn't possible.

If you select one of the checkboxes in the **2nd Period Type – Weeks** area, the system will store the data additionally in weeks. The storage of data in weeks will increase the document volume and may impact

performance. The checkbox for the storage of data in weeks can be switched on for both actual and plan or either one of them.

Save the attributes, and go to the **Environment** tab. The operating concern needs to be activated in order to function. If you're working with Profitability Analysis and the operating concern isn't activated (e.g., because of a transport), you can't create any sales orders or billing invoices.

The generation of the operating concern takes place in two steps: the client-specific part and cross-client part. You should generate the client-specific part before creating the cross-client part. You can confirm any warning messages that occur when creating the operating concern. The status of the operating concern must be green after the generation to be able to work with Profitability Analysis (Figure 18).
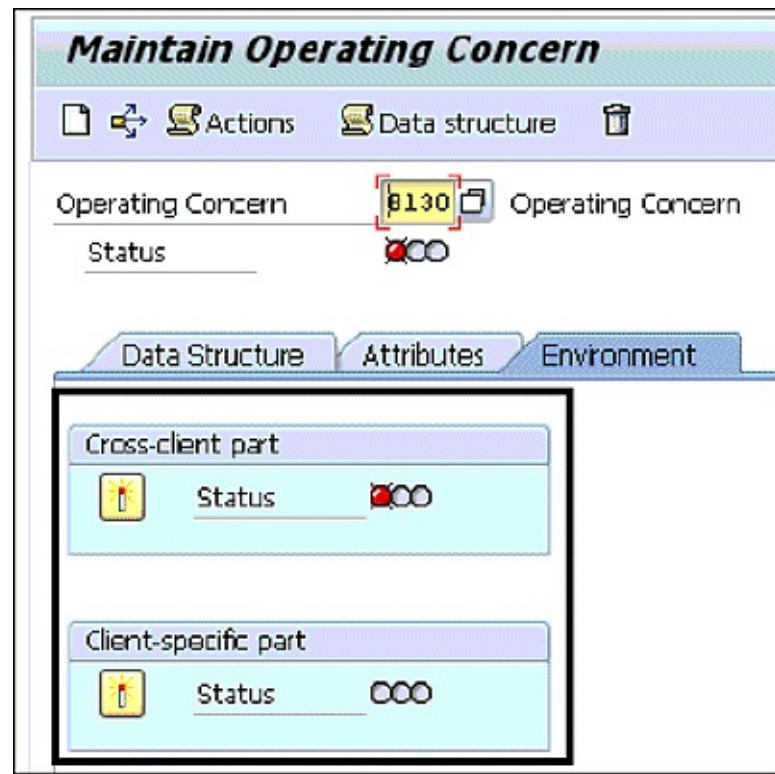
Figure 18   Generating the Operating Concern Environment

The version also has to be activated for the operating concern by following the IMG path **Controlling** • **General Controlling** • **Organization** • **Maintain Versions**. Don't forget that you need to assign the controlling areas to the operating concern before you can use Profitability Analysis. To do this, go to **Enterprise Structure** • **Assignment** • **Controlling** • **Assign Controlling Area to Operating Concern**. Then go to Transaction KEKE to activate Profitability Analysis in the controlling area..

2.4 Define Characteristics Hierarchy

The characteristics hierarchy allows you to group characteristics without creating an additional characteristic. You can, for example, group different countries to a continent. To create a characteristics hierarchy, go to Transaction KES3 or follow IMG path **Controlling • Profitability Analysis • Master Data • Characteristic Values • Define Characteristics Hierarchy**.

In the **Char. Table** column, you see all characteristics that are assigned to the operating concern in which you're creating the characteristics hierarchy. Select the characteristics for which you want to create a grouping/hierarchy. In our example in Figure 19, we're creating a hierarchy for the characteristic **Country**.

In the **Choose Hierarchy** area, you must enter a name in the **Variant** field before you can create a characteristics hierarchy by clicking on **Create/Change**.

In the following screen, maintain a short description for the characteristics hierarchy before clicking on the **Hierarchy** button to actually create the characteristics hierarchy.

Similar to cost element groups, you can create a characteristics hierarchy by creating nodes; in Figure 20, for example, nodes are created for the continents. You can create complex hierarchies in the transaction and then assign the characteristics to the hierarchy nodes.
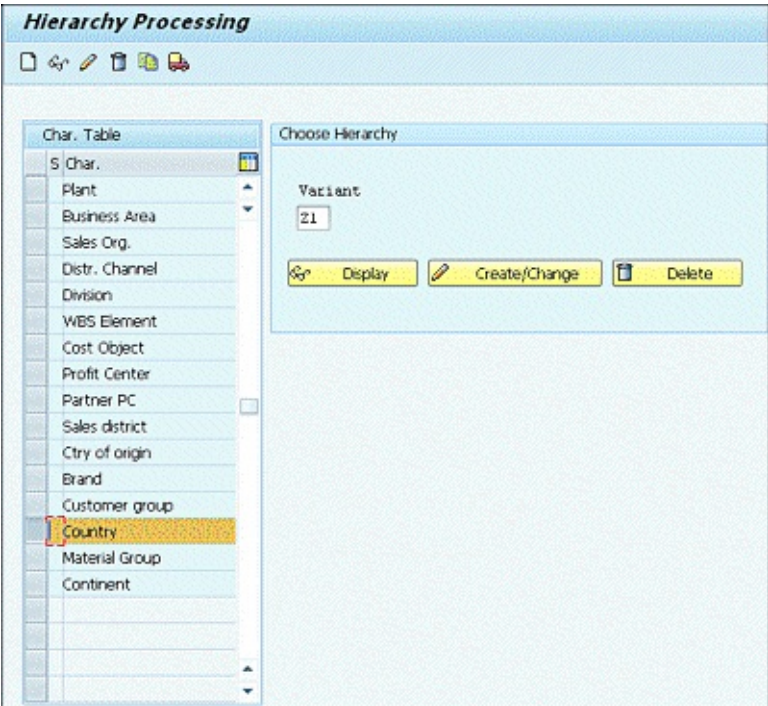
Figure 19   Defining the Characteristics Hierarchy
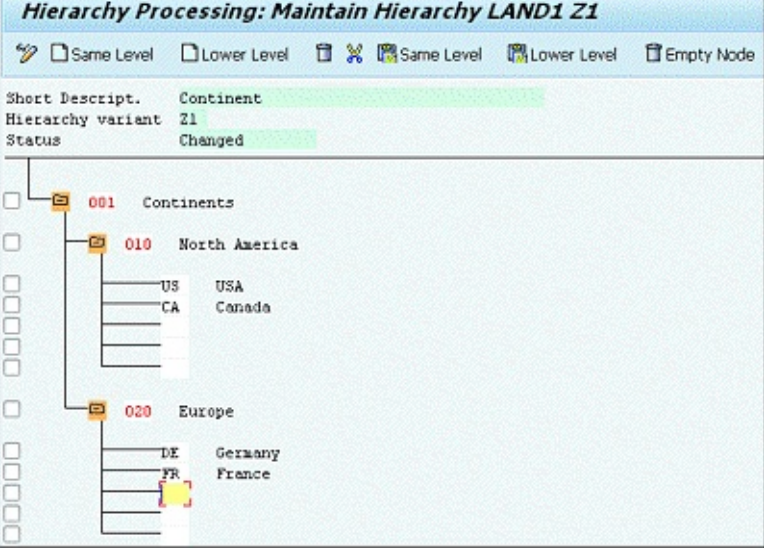
Figure 20 Maintaining the Hierarchy

When creating a Profitability Analysis report, you can use the characteristics hierarchy. To create this Profitability Analysis report, go to Transaction KE30 or follow the menu path **Accounting** • **Controlling** • **Profitability Analysis** • **Information System** • **KE30 – Execute Report**. In the creation of the characteristics in the form, you have to select the characteristic for which you created the hierarchy. In Figure 21, we selected the characteristic **Country** for which we created the characteristics hierarchy **Z1 – Continent**. When selecting the hierarchy checkbox for the characteristic **Country**, a pop-up will appear in which you can enter any characteristic hierarchy that has been created in relation to the characteristic **Country**. This way, you can analyze your reports and use the created characteristics hierarchy to allow a drill-down from summarized to single characteristic values.
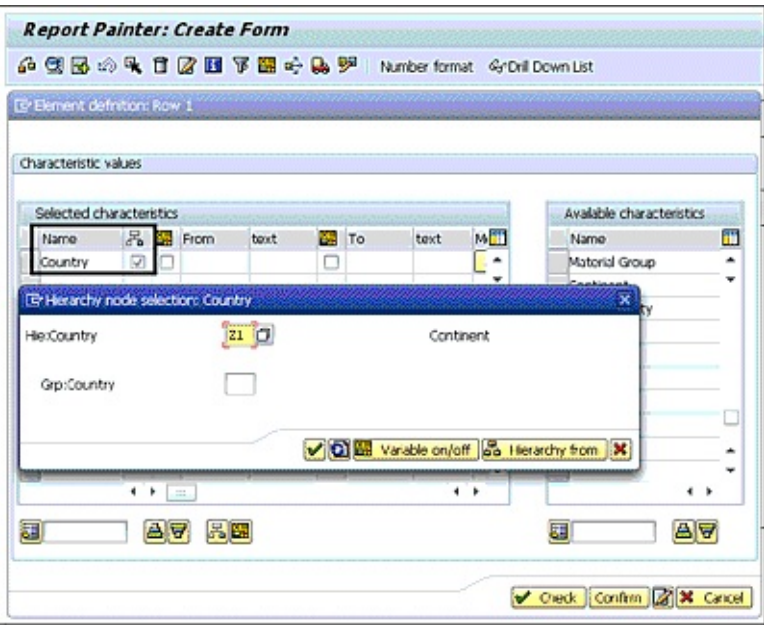
Figure 21 Using the Characteristics Hierarchy in a Profitability Report

2.5   Define Characteristics Derivation

Not all characteristics can be created and assigned to the operating concern by transfer from an existing SAP data table. Characteristics derivation helps you assign values to characteristics that can't be transferred from an existing SAP data table. With the help of characteristics, you can, for example, derive the country of the ship-to customer in Profitability Analysis.

To create a characteristics derivation, go to Transaction KEDR or follow IMG path **Controlling** • **Profitability Analysis** • **Master Data** • **Define Characteristics Derivation**.

There are different options to choose to create a characteristics derivation:

- **Derivation Rule**
  With the derivation rule, you can assign values to a user-defined characteristic. Derivation rules are if-then rules. In this section, we show you how to assign countries to the user-defined characteristic **Continent**.

- **Table Lookup**
  The table lookup reads values out of SAP data tables; for example, the country of the ship-to is read out of data table KNA1 (General Data in Customer Master).

- **Move**
  With **Move**, you can move the content of any field or a constant to another field. Move is often used when creating complex table lookups.

- **Clear**
  Clear gives you the possibility to clear or reset character values. This is also often used when creating complex table lookups or derivation rules.

- **Enhancement**
  With **Enhancement**, you can add your own derivation logic. You need a developer key to create an enhancement. Use component 003 of customer enhancement COPA0001 to create your own derivation logic.

In this section, we create a derivation rule as shown in Figure 22. Click on **New Entries** to create a characteristics derivation, and then choose **Derivation Rule** from the pop-up.
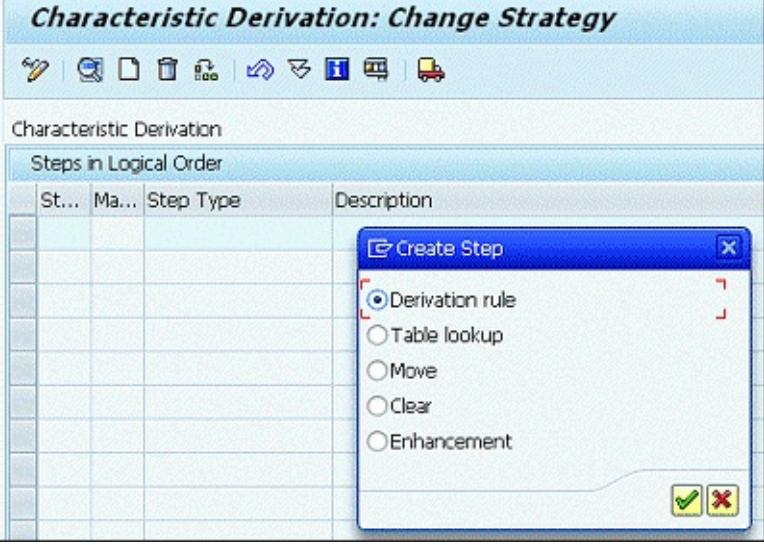
Figure 22 Creating a Derivation Rule

In the screen shown in Figure 23, you define the source fields and target fields. In this example, we want to assign different countries to a continent, just as we did in Section 2.4. As source field, we chose the characteristic **KMLAND** for the country, and as target field, we chose **WW999** for the continent, which is a user-defined characteristic with its own value maintenance.
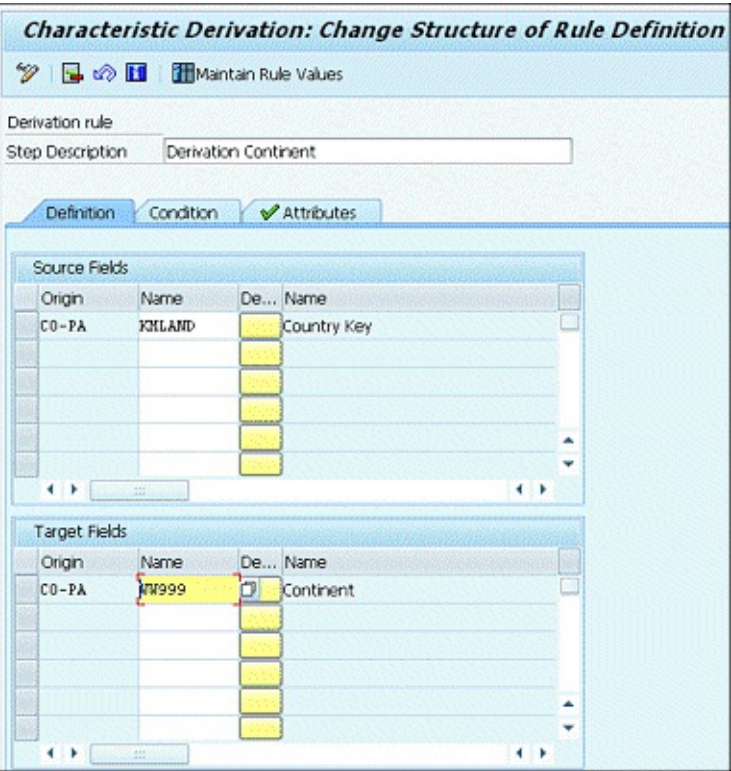
Figure 23 Defining the Characteristics Derivation Rule

After the maintenance of the source fields and the target fields, you can maintain the rule values by clicking on the **Maintain Rule Values** button.

In the table shown in Figure 24, the source field (country) gets assigned to a target field (continent). When transferring a document to Profitability Analysis, the system will check this table and derive the continent according to the country.

Figure 24 Maintaining Rules

By pressing (F3) or clicking the green left arrow icon, go back to the definition of the derivation rule. In the **Attributes** tab, you can enhance the functionality of the derivation rules ([Figure 25](#)):

- **Issue Error Message If No Value Found**
  When transferring a document to Profitability Analysis, the system will create an error message if no value according to the derivation rule is found. You then have to maintain an entry in the derivation rule before the document can be transferred to Profitability Analysis. Transaction KEDR (Characteristics Derivation: Display Strategy) is also accessible when the system is productive, which is necessary because master data often isn't maintained in the development system. Therefore, derivation rules can, in most cases, only be maintained in the production system.

- **Maintain Entries Using Validity Date**
  This checkbox allows you to maintain all rule values with validity dates. This way, you can better reconstruct or understand changes in the rule values, which may also cause inconsistencies in the reporting.

- **Optimize Access, No From-To Values Can Then Be Maintained**
  With the checkbox to optimize access, you determine that no from-to values can be maintained. This can improve the performance of the transfer of documents to Profitability Analysis as the system can access and derive the values much quicker.

Figure 25 Attributes of the Derivation Rule

3 Flows of Actual Values

To fill costing-based Profitability Analysis with actual data, you need to configure the interfaces of the Logistics and predecessor Controlling modules. It's important to understand and know the value flows of the single processes to configure the interfaces correctly.

3.1 Interface to Sales and Distribution

In costing-based Profitability Analysis, you have to maintain an interface from the Sales and Distribution module to Profitability Analysis. Costing-based Profitability Analysis doesn't know cost elements or General Ledger accounts, which is why you must map the pricing conditions that make up the pricing in the billing document to value fields.

To map pricing conditions to value fields, go to Transaction KE4I or follow the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Transfer of Billing Documents • Assign Value Fields • Maintain Assignment of SD Conditions to CO-PA Value Fields**.

With **New Entries,** you can add additional pricing conditions in the **CTyp** (condition type) column in the table as shown in Figure 26. Every condition has to be assigned to one value field of the operating concern to transfer the whole billing invoice value to Profitability Analysis. You assign the value fields in the **Val. Fld** (value field) column. Keep in mind that you can work with statistical pricing conditions—for example, the cash discount (**SKTO**)—in Sales and Distribution. If you map these conditions to value fields, you need to be aware that you don't consider them in the Financial Accounting and Profitability Analysis reconciliation.

Figure 26　Assigning Sales and Distribution Conditions to Value Fields

To transfer sales to costing-based Profitability Analysis, you have to create cost elements with cost element category 11 (revenues) and with cost element category 12 (sales deductions).

When assigning Sales and Distribution conditions to value fields, you need to make sure that the values are transferred with the correct plus/minus sign. For conditions that can have both positive and negative values, such as bonuses or discounts, the **Transfer +/-** checkbox has to be set to ensure that the values are transferred with the correct signs into Profitability Analysis.

Sales quantities can also be transferred to Profitability Analysis by executing Transaction KE4M or following the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Transfer of Billing Documents • Assign Quantity Fields**. The transaction looks similar to the assignment of Sales

and Distribution pricing conditions to value fields. Click on the **New Entries** button to enter the quantity field—for example, "FKIMG Billed Quantity"—to transfer to Profitability Analysis in the **SD Qty Field** (Sales and Distribution quantity field) column. You can also transfer weights and volumes to Profitability Analysis. Enter the quantity field to which you want to assign the quantity—for example, "ABSMG Sales Quantity"—into the **CO-PA Qty Field** (Profitability Analysis quantity field) column shown in Figure 27.
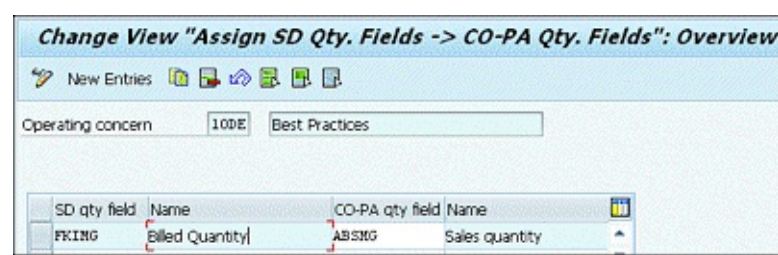
Figure 27   Assigning Sales and Distribution Quantity Fields to Value Fields

Almost every billing invoice has the condition VPRS (Internal Price Condition) assigned. This condition reflects the material value with which the goods issue was posted. By assigning this price condition to a Profitability Analysis value field, you can transfer COGS to costing-based Profitability Analysis. Not all billing invoices require an outbound delivery and therefore have no associated COGS (e.g., a credit memo or a debit memo, which have items with materials in the billing invoices and often also an internal price reflecting the valuation price when the billing invoice was created). To make sure that those billing types don't transfer any material cost by mistake, you need to reset those value fields as well as quantity fields in configuration by going to Transaction KE4W or following the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Transfer of Billing Documents • Reset Value/Quantity Fields**.

Click **New Entries** to enter billing types in the **BillT** column for which you want to reset any value or quantity fields. In Figure 28 for billing type **G2 Credit Memo** and **L2 Debit Memo**, we reset the value field **VVMAT Material Costs** by entering the value field in the **Value Fld** column. Set the checkbox in the **Reset** column. When transferring billing invoices of the billing types maintained in Transaction KE4W, the system first derives the value fields but then resets them so that no values will be assigned to those value fields that get reset.

Figure 28   Resetting Value/Quantity Fields

3.2   Transfer of Incoming Sales Orders

In costing-based Profitability Analysis, you can transfer incoming sales orders, which can indicate a trend for future months and help in planning. Incoming sales orders get transferred with a special record type so that you can clearly differentiate them from real sales.

To transfer incoming sales orders to Profitability Analysis, you have to assign the Sales and Distribution conditions to Profitability Analysis value fields. This happens in the same transaction as the Sales and Distribution conditions for the transfer of the billing invoices. You can't assign the Sales and Distribution conditions for incoming sales orders differently from the Sales and Distribution conditions for billing invoices. This way, the system guarantees consistency in the reporting of the sales—actual or future.

To assign Sales and Distribution conditions to value fields, go to Transaction KE4I or follow the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Transfer of Incoming Sales Orders • Assign Value Fields • Maintain Assignment of SD Conditions to CO-PA Value Fields**.

In addition to transferring the pricing conditions, you can also transfer quantities of incoming sales orders. The assignment of quantity fields happens as the assignment of value fields in the same transaction and can't differentiate. To assign Sales and Distribution conditions to value fields, go to Transaction KE4M or follow IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Transfer of Incoming Sales Orders • Assign Quantity Fields**.

After you've assigned Sales and Distribution conditions and quantities to value/quantity fields, you have to activate the transfer of incoming sales orders by going to Transaction KEKF or following the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Transfer of Incoming Sales Orders • Activate Transfer of Incoming Sales Orders**.

Figure 29 gives an overview of all controlling areas and their assigned operating concern. You can only activate the transfer of incoming sales orders for controlling areas where an operating concern is assigned.

There are different activation options:

- \<blank\> **(Inactive)**
  The sales order transfer is inactive.

- **1 (Active with Date of Entry)**
  The sales order is transferred to Profitability Analysis when it's saved.

- **2 (Active with Deliv. Date/Billing Plan Deadline (Using KWMENG))**
  The sales order is transferred to Profitability Analysis in the period of the delivery date.

- **3 (Active with Deliv. Date/Billing Plan Deadline (Using KBMENG))**
  The sales order is transferred to Profitability Analysis in the period when the availability check confirms the delivery date.
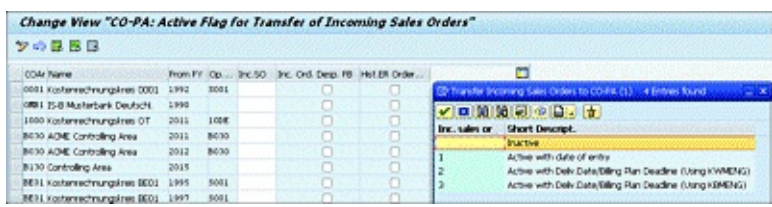
Figure 29　Activating the Transfer of Incoming Sales Orders

3.3 Interface to Product Costing

In costing-based Profitability Analysis, COGS is transferred to Profitability Analysis when the billing invoice is, if you've mapped the Sales and Distribution condition VPRS (Internal Price) to a Profitability Analysis value field. The value matches the value at time of goods issue. You can also transfer the cost estimate, as you'll see in Chapter 4.

Variances that can occur during production can also be transferred to Profitability Analysis. The variances are divided into different variance categories, which can be settled to costing-based Profitability Analysis.

Therefore, you need to create a Profitability Analysis transfer structure for variance settlement with Transaction KEI1 or by following the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Settlement of Production Variances • Define PA Transfer Structure for Variance Settlement**. You can create a Profitability Analysis transfer structure by clicking **New Entries**. Create an assignment per variance category you activated in the variance key (Figure 30).
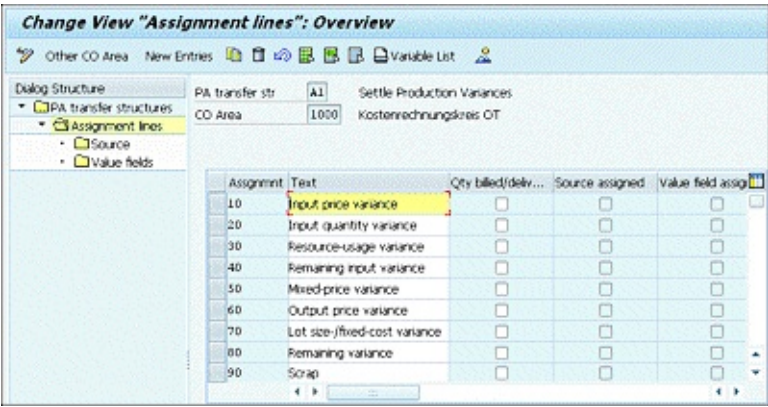
Figure 30   Maintaining Assignments in the Profitability Analysis Transfer Structure

After that, select one **Assignment** line, and navigate to the **Source** folder on the left side of Figure 31.

Figure 31   Maintaining the Source for Assignment in the Profitability Analysis Transfer Structure
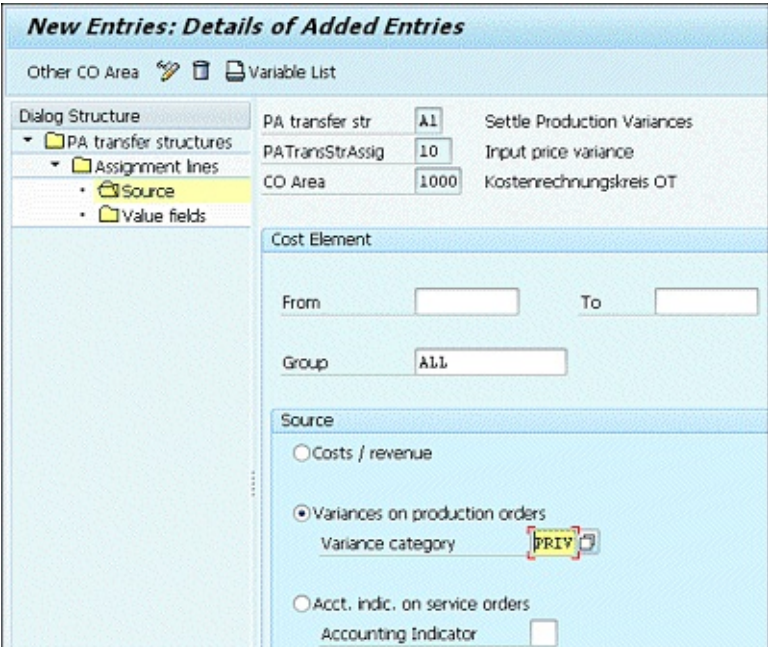
In the source, determine the cost elements or the cost element group in the **Cost Element** area, and then select **Variances on Production Orders** and assign a **Variance Category** according to the line assignment in the **Source** area. We entered cost element **Group** "ALL" and **Variance Category** "PRIV" (input price variance to the line assignment input price variance).

Navigate to **Value Fields** on the left side of Figure 32. Click **New Entries** to assign a value field to the assignment line. In the **Quantity/Value** column, choose **Value Field**, and in the **F** column, determine whether only fixed, variable, or all cost items will be assigned to one value field or different value fields. The assignment of the value field is made in the **Value Fld** column. In Figure 32, we assigned all cost items to value field **VVIPV** (input price variance).

Repeat those steps of source and value field assignment for every line before saving and leaving the maintenance of the Profitability Analysis transfer structure.
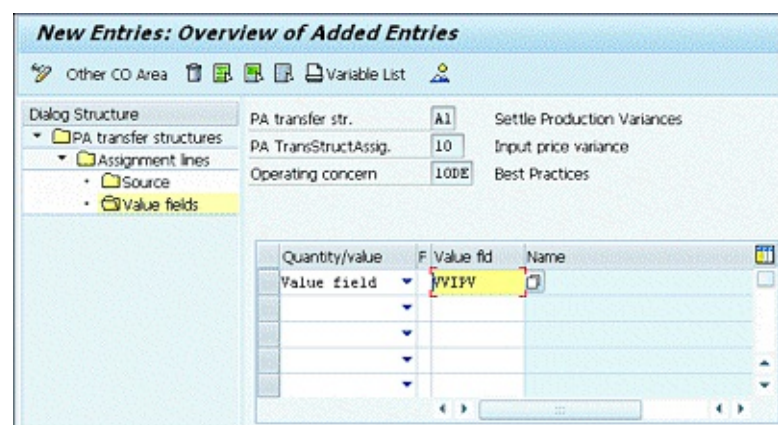
Figure 32   Assigning a Value Field to the Profitability Analysis Transfer Structure

Next, assign the Profitability Analysis transfer structure to the settlement profile that you're using to settle your cost objects by following the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Settlement of Production Variances • Assign PA Transfer Structure to Settlement Profile**. Choose the settlement profile that is assigned to your cost objects and go into the details with the magnifying glass icon. In Figure 33, we entered the Profitability Analysis transfer structure "A1" in the **PA Transfer Str.** field in the **Default Values** area.

In addition to assigning the Profitability Analysis transfer structure to the settlement profile, you need to select the **Variances to Costing-Based PA** checkbox at the bottom of the **Indicators** area. The material needs to be selected as a possible receiver in the **Valid Receivers** area on the right side. After you maintain those entries, you can save the settlement profile and use it for the settlement of production variances to Profitability Analysis. In Profitability Analysis, you can further analyze your variances on the material level.

Figure 33   Assigning a Profitability Analysis Transfer Structure to a Settlement Profile

3.4 Direct Posting from Financial Accounting/Materials Management

You can also work with a direct account assignment to Profitability Analysis. Costs are then directly assigned to a value field, not first posted on an account assignment object (e.g., an internal order or a cost center). This makes sense for cost elements such as inventory differences; perhaps you want to analyze them by material in Profitability Analysis, but the material information gets lost when costs first get posted on a cost center or an internal order and then are transferred to Profitability Analysis.

To create a direct account assignment, you need to maintain a Profitability Analysis transfer structure with Transaction KEI2 or by following the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Direct Posting From FI/MM • Maintain PA Transfer Structure for Direct Postings**. Use Profitability Analysis transfer structure **FI**, which is delivered in standard SAP to create a direct account assignment from Financial Accounting/Materials Management. Go to the **Assignment Lines** folder in Figure 34, and by clicking the **New Entries** button, create assignments for costs you want to transfer with a direct account assignment to Profitability Analysis.
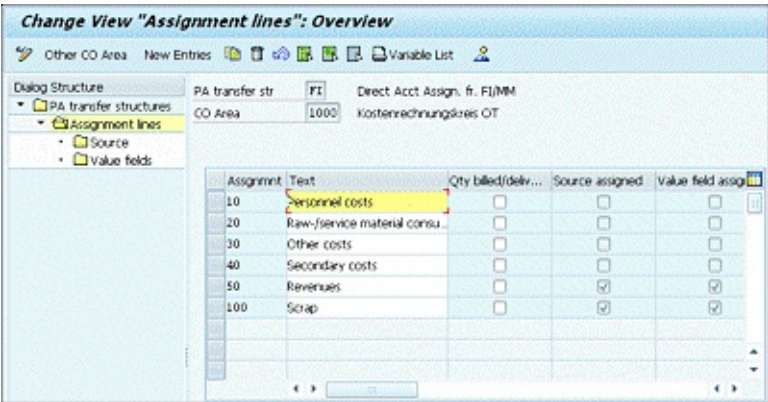
Figure 34   Defining Assignments for Direct Assignment from Financial Accounting/Materials Management

After creating an assignment, navigate to the **Source** folder in the **Dialog Structure** pane on the left side of Figure 35. Enter the cost element, cost element interval, or cost element group for which you want to create a direct account assignment in the **Cost Element** area. In Figure 35, we entered the cost element group "PERS" for several personnel costs in the **Group** field. In the **Source** area, you select **Costs/Revenue**.
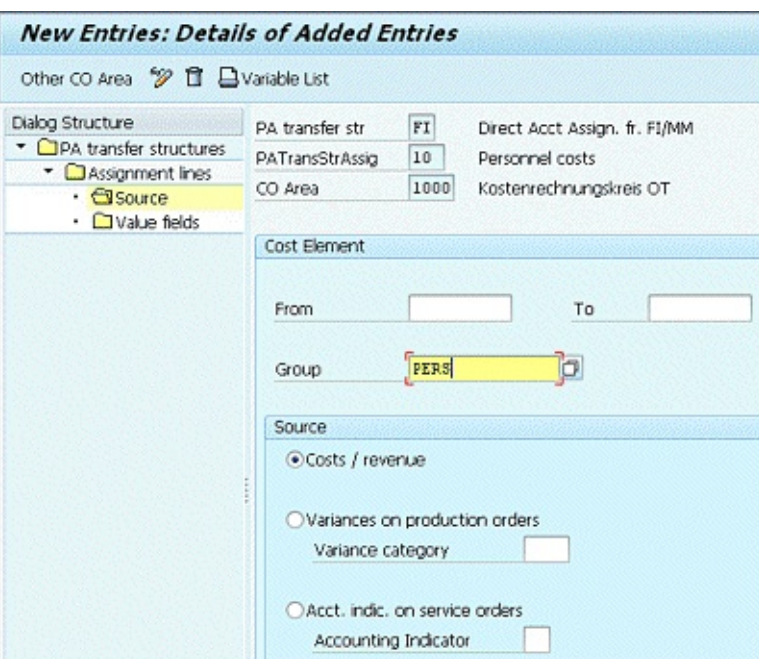
Figure 35 Maintaining Cost Element and Source for Assignment

Now navigate to the **Value Fields** folder in the **Dialog Structure** pane in Figure 36. With **New Entries**, you can assign a value field to the assignment line. In the **Quantity/Value** column, you choose **Value Field**, and in the **F** column, you can determine whether only fixed, variable, or all cost items will be assigned to one value field or different value fields. The assignment of the value field is made in the **Value Fld** column. In Figure 32, we assigned all cost items to value field **VWGK** (Admin. Overhead).

Repeat those steps for all value fields for which you want to maintain a direct account assignment.
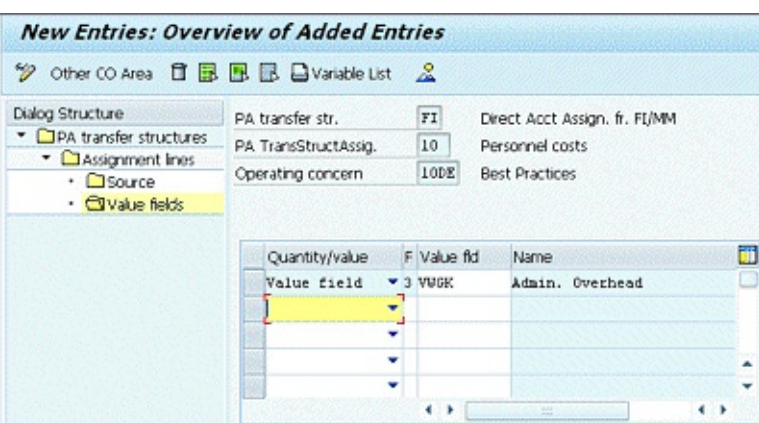
Figure 36 Maintaining a Value Field for Direct Account Assignment

After you've maintained the Profitability Analysis transfer structure for direct account assignment to Financial Accounting/Materials Management, you need to maintain the automatic account assignment with Transaction OKB9 or by following the IMG path **Controlling** • **Profitability Analysis** • **Flows of Actual Values** • **Direct Posting From FI/MM** • **Automatic Account Assignment**.

By clicking the **New Entries** button, you can maintain a default account assignment for all cost elements for which you maintained an entry in the Profitability Analysis transfer structure by selecting the checkbox in the **Prf** (Profitability Segment) column shown in Figure 37.

Figure 37   Maintaining the Default Account Assignment

When you create any posting on a cost element for which an entry in the Profitability Analysis transfer structure for direct account assignment Financial Accounting/Materials Management and an entry in Transaction OKB9 is maintained, then the posting is directly transferred to Profitability Analysis and can be analyzed there with all characteristics that could be derived during posting.

3.5   Settlement of Internal Orders

Internal orders can also get settled to Profitability Analysis, but you have to maintain a settlement rule to Profitability Analysis by executing Transaction KO02 or by following the menu path **Accounting • Controlling • Internal Orders • Master Data • Special Functions • Order • KO02 – Change**. In the **Change Internal Order: Master Data** screen, you can click on the **Settlement Rule** button to maintain a settlement rule.

For the settlement to Profitability Analysis, you have to maintain a settlement rule with category PSG (Profitability Segment). When entering the category "PSG" in the **Cat** (category) column, a pop-up appears where you can maintain characteristics that should be transferred to Profitability Analysis with the settlement of the internal order. You can maintain any characteristic that you assigned to the operating concern.

You must assign a Profitability Analysis transfer structure to the settlement profile of the internal order to be able to maintain a settlement rule for the settlement to Profitability Analysis (Figure 38).

To create a Profitability Analysis transfer structure for settlement to Profitability Analysis, go to Transaction KEI1 or follow the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Order and Project Settlement • Define PA Transfer Structure for Settlement**. We already explained in Section 2.4 and Section 2.5 how to maintain a Profitability Analysis transfer structure.
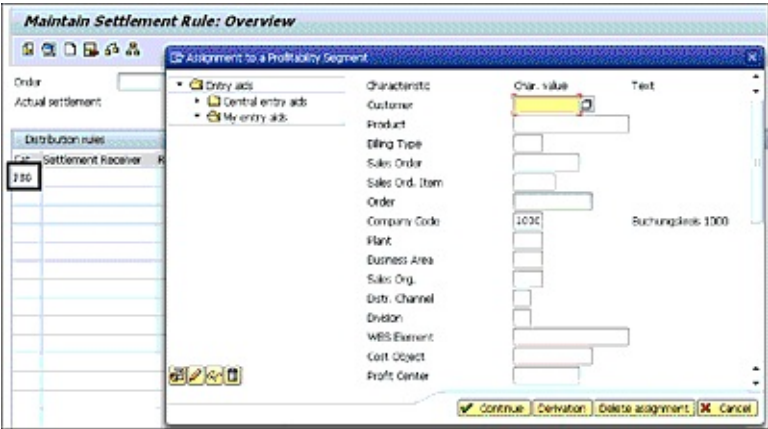
Figure 38   Maintaining a Settlement Rule in an Internal Order

The created Profitability Analysis transfer structure has to be assigned to a settlement profile. To assign a Profitability Analysis transfer structure to a settlement profile, follow the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Order and Project Settlement • Assign PA Transfer Structure to Settlement Profile**.

You can work with an automatic characteristics derivation if you want to avoid forcing the user to make manual entries in the characteristics derivation when creating a settlement rule. To activate the automatic characteristics derivation, you have to create an entry aid by doing a little extra configuration.

First, you have to create a characteristic group with Transaction KEPA or by following the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Initial Steps • Characteristic Groups • Maintain Characteristic Groups**. The characteristic group contains all the characteristics that are required to maintain when creating a settlement rule for an internal order. You create a characteristic group by clicking **New Entries**. The characteristic group has a four-digit technical name and a short description. In Figure 39, we created characteristic group **Z001**. We then navigated to the **Characteristics** folder in the **Dialog Structure** pane and maintained with **New Entries** all characteristics that we want to make mandatory for the maintenance of the settlement rule. The following are mandatory characteristics for characteristic group Z001:

- **VKORG Sales Org.**

- **VTWEG Distr. Channel**

- **SPART Division**
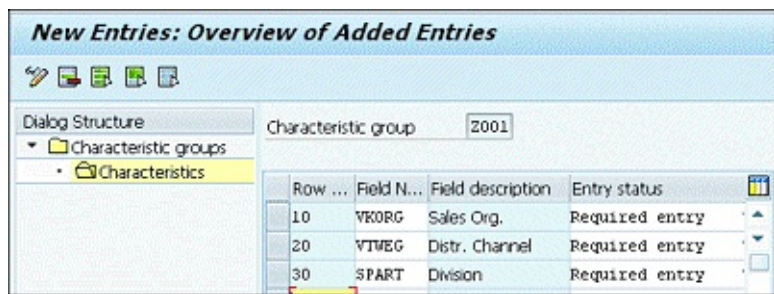
Figure 39   Creating a Characteristic Group

Next, assign the characteristic group to a business transaction by running Transaction KE4G or following the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Initial Steps • Characteristic Groups • Assign Characteristic Groups for Assignment Screen**.

With **New Entries,** you can create a new assignment. In the **BusT** (business transaction) column, you can display all business transactions that allow the use of an assignment screen with the (F4) Help. In Figure 40, we chose business transaction **KABK** (Settlement Account Assignment) and assigned the characteristic group created in Figure 39. You can default all required characteristics assigned to the characteristic group with a click on the right arrow. All required characteristics will be displayed when you scroll down the screen.
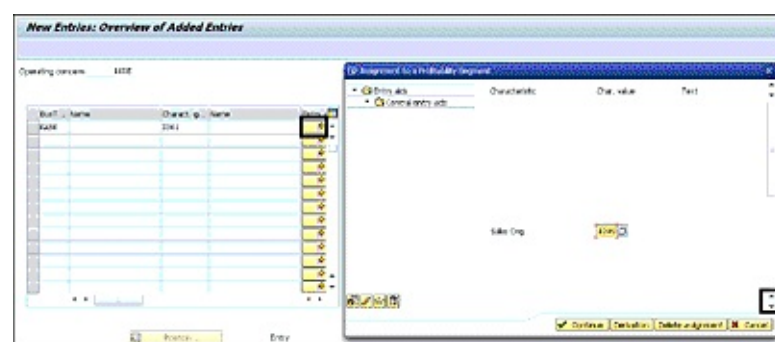
Figure 40   Assigning a Characteristics Group to the Assignment Screen

Now when you maintain a settlement rule in an internal order with Transaction KO02 or by following the menu path **Accounting • Controlling • Internal Orders • Master Data • Special Functions • Order • KO02 – Change**, you can only maintain the characteristics that were assigned to the characteristic group. If you've maintained any default entries, those characteristics will be defaulted with the respective values ([Figure 41](#)).
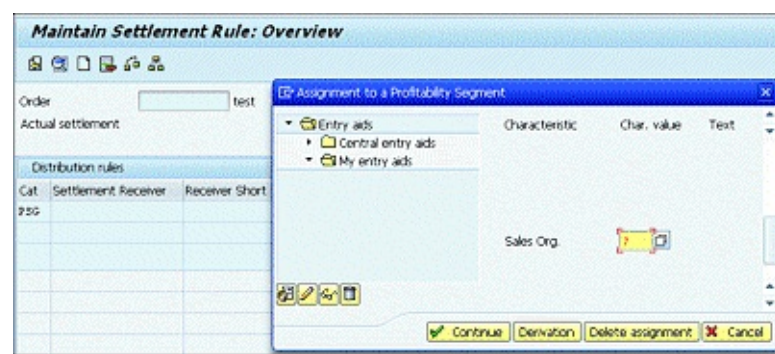
Figure 41   Maintaining a Settlement Rule with Entry Aid

3.6   Assessment of Cost Centers

Cost centers are transferred via assessment cycles to Profitability Analysis. To create an assessment cycle, go to Transaction KEU1 or follow the IMG path **Controlling** • **Profitability Analysis** • **Flows of Actual Values** • **Transfer of Overhead** • **Assess Cost Center Costs/Process Cost** • **Define Structure of Cost Center Assessment/Process Cost Assessment** • **Create Actual Assessment**.

The assessment cycle has a cycle header with a start and an end date. The assessment cycle is assigned to the operating concern and the controlling area. You can create assessment cycles for costing-based and account-based Profitability Analysis. In the **Preset Selection Criteria** area, you need to indicate for which Profitability Analysis the assessment cycle will be created in the **TF Basis** field ([Figure 42](#)).
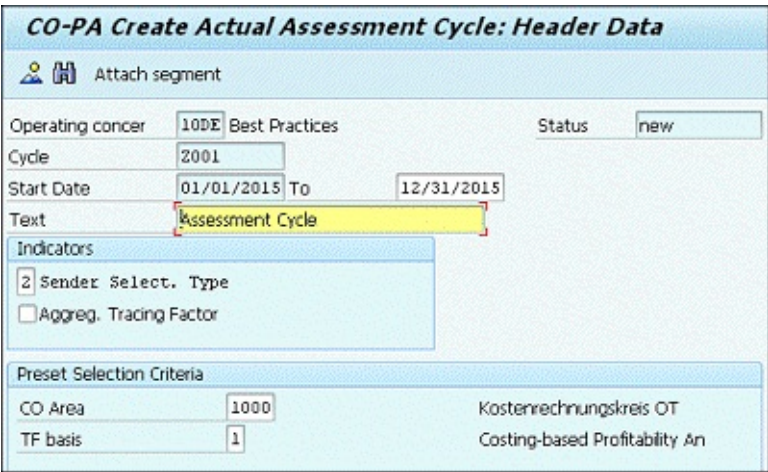
Figure 42   Creating an Assessment Cycle

You need to attach segments to every assessment cycle header. The segments determine which data is transferred to Profitability Analysis in which way. Create a segment by selecting the **Attach Segment** button.

Every segment has four tabs. The first tab is **Segment Header**, in which you determine the sender as either a secondary cost element of cost element category 42 (**Assessment CElem**) or an allocation structure (**Alloc. Structure**). In [Figure 43](#) the secondary cost element **942200 Assessment CO-PA** was assigned as sender. With an allocation structure, you can assess cost elements with different secondary assessment cost elements. You can create an allocation structure by following the IMG path **Controlling** • **Profitability Analysis** • **Flows of Actual Values** • **Transfer of Overhead** • **Assess Cost Center Costs/Process Costs** • **Define Allocation Structure**.

In addition to the sender, you need to assign a receiver to the segment header. In costing-based Profitability Analysis, the receiver is a value field. You can maintain different value fields for fixed and variable costs. In [Figure 43](#), **VWGK Admin. Overhead** was assigned for both the fixed (**Fixed Value Field**) and the variable (**Val. Fld Var. Cst**) values. If you're working with an allocation structure, you need to maintain a Profitability Analysis transfer structure (**PA Transfer Struct.**). In the Profitability Analysis transfer structure, a value field per source assessment cost element is assigned. You also can

assign different value fields for fixed and variable cost portions. We recommend that you keep the assignment line structure of the allocation structure and the Profitability Analysis transfer structure in parallel to ensure a correct assessment of the cost on the cost center.

Figure 43 Creating the Segment Header of the Assessment Cycle

To create a Profitability Analysis transfer structure, follow the IMG path **Controlling • Profitability Analysis • Flows of Actual Values • Transfer of Overhead • Assess Cost Center Costs/Process Costs • Define PA Transfer Structure for Assessment**.

Inside the **Segment Header** tab, the **Sender Values** area enables you to select which values will be assessed from the following options:

- **Posted Amounts**
  All costs that have been posted on the sender will be assessed.

- **Fixed Amounts**
  You define fixed amounts in a **Sender Value** tab that opens when you select fixed amounts. The senders are credited with these amounts.

- **Fixed Rates**
  You define fixed prices in a **Sender Value** tab that opens when you select fixed rates. The prices are defined per cost center and/or assessment cost element in the **Sender Value** tab. In the execution of the assessment cycle, the prices are multiplied by the receiver tracing factor, which is defined in the **Receiver Tracing Factor** area. The receiver tracing factor is defined as a value field (or a quantity value field, such as sales quantity), fixed amounts, fixed percentages, or fixed portions.

In addition to the sender rule, in the **Share in %** field you define the percentage of cost that is distributed/assessed. If a percentage lower than 100% is maintained, the difference to 100% of the value

is left on the sender. The system checks when saving the actual assessment cycle that the total of 100% per sender isn't exceeded.

Before moving on to the next tab, you need to maintain the rule for the receiver tracing factor in the **Receiver Tracing Factor** area. You have the following choices:

- **Variable Portions**
  The receiver is debited depending on the receiving tracing factor maintained in the **Val. Fld/Key Fig** field. You can enter any value field that is assigned to the operating concern. In the execution of the assessment cycle, the system analyzes the ratio of the values on the value field maintained as the receiving tracing factor and distributes the sender values accordingly.
  For example:
  Value on sender to be distributed/assessed to three receivers: 30,000
  Receiving Tracing Factor A → 50%
  Receiving Tracing Factor B → 30%
  Receiving Tracing Factor C → 20%
  Receiver Value A → 30,000 × 50% = 15,000
  Receiver Value B → 30,000 × 30% = 9,000
  Receiver Value C → 30,000 × 20% = 6,000

- **Fixed Amounts**
  The receivers are charged directly with the fixed amounts you maintained in the **Receiver Tracing Factor** tab.

- **Fixed Percentages**
  The receivers are charged directly with the fixed percentages you maintained in the **Receiver Tracing Factor** tab.

- **Fixed Portions**
  The receivers are charged directly with the fixed portions you maintained in the **Receiver Tracing Factor** tab.

The next tab is the **Senders/Receivers** tab shown in . This is where you define the sender objects, which are cost centers and cost elements. You can maintain single values, an interval, or a cost center/cost element group. We recommend that you work with cost center/cost element groups so that you can control more easily whether you assigned all cost elements/cost centers to the assessment cycle. You can use the check and help functions to check the groups for ambiguity and/or completeness.
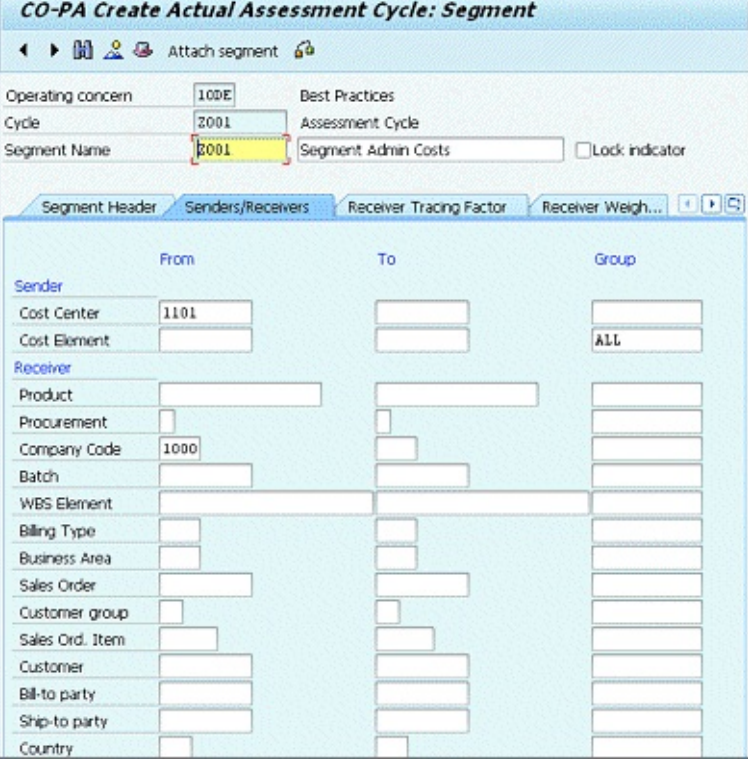
Figure 44 Maintaining Senders/Receivers in the Assessment Cycle

For the receiver, you can detail your receivers per characteristics, in addition to the value fields that you maintained in the **Segment Header** tab. You have to maintain a sender, but you're only required to maintain a receiver if you don't work with variable portions. Be aware that the more receivers you select, the longer the assessment cycle will run, which might impact the performance of your system, especially if you're not using the Profitability Analysis accelerator within SAP HANA.

The third tab is **Receiver Tracing Factor**, as shown in Figure 45. The **Receiver Tracing Factor** area in this tab is a repeat from the **Segment Header** tab. Another one of its subareas is **Selection Criteria**. For an actual assessment cycle, you mainly maintain the **Record Type**. The **Record Type** is similar to a document type. **Record Type F** is used for billing invoices. The maintenance of the record type in the **Record Type** field determines which profitability segments will be considered when determining the receiver tracing factors. In the **Plan/Act. Indic** (plan/actual indicator) field, you need to maintain indicator **0** for actual data and indicator **1** for planned data.
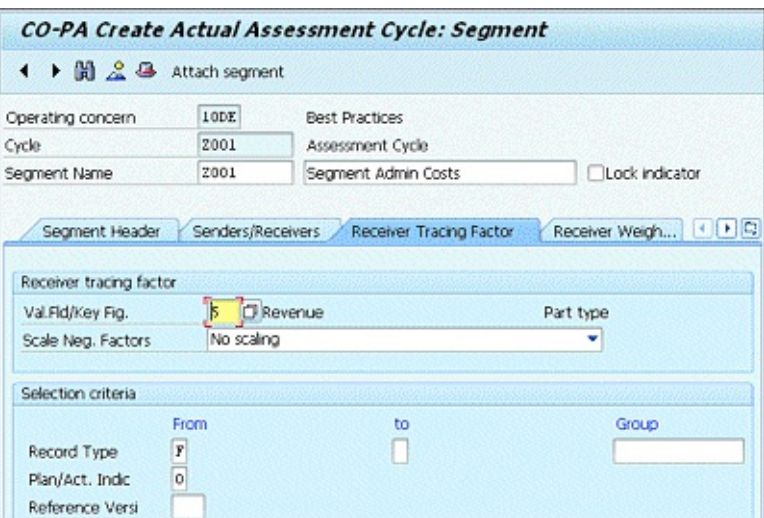
Figure 45 Maintaining the Receiver Tracing Factor

Last but not least, the **Receiver Weighting Factors** tab shown in Figure 46 lists all receiver objects. The weighting factors determine the number of decimal places with which the given weighting factors are valuated.
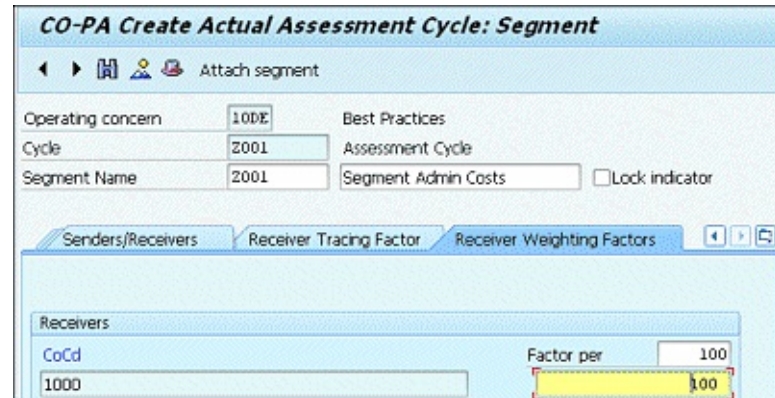
Figure 46 Maintaining the Receiver Weighting Factors

Now you've maintained the first segment of the actual assessment cycle. You can maintain as many segments as you like for one actual assessment cycle, but be aware that the order of the segments plays an important role. You need to make sure that you keep the order of the segments from the most specific segment to the more general segment. For example, if you want to distribute the depreciation on the overhead cost centers to a different value field than the rest of the posted values on the overhead cost centers, you have to put the segment for the distribution of the depreciation first; otherwise, the cycle won't find any values to distribute to the depreciation value field. With **Goto • Overview Segments**, you can adjust the order of the segments.
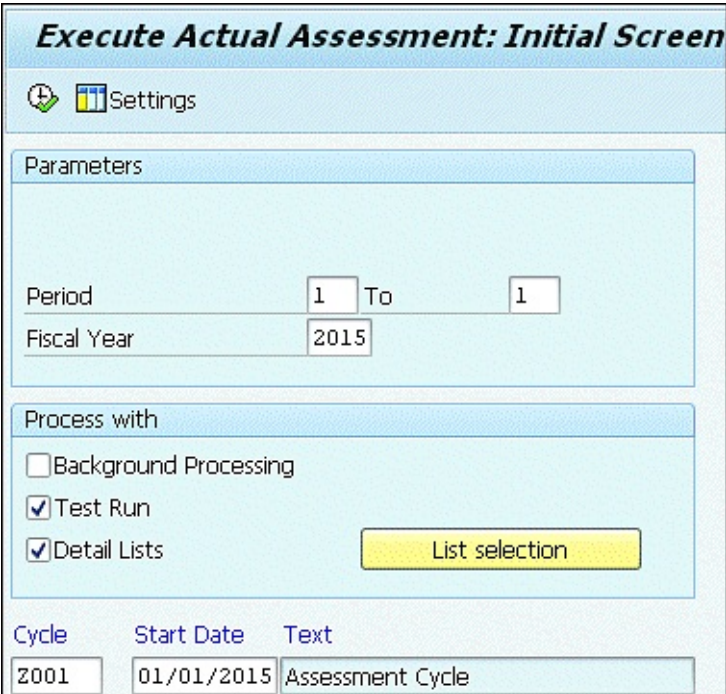
The maintenance of the assessment cycles is assigned during configuration until the system is set as productive. When you're working in a productive environment, you can maintain the assessment cycles in the system if you have the required authorization.

Assessment cycles can be created for plan and actual data. The process of the maintenance doesn't differentiate from each other; only the transactions differ (Table 1).

	Plan Transaction	Actual Transaction
Create assessment cycle	KEU7	KEU1
Change assessment cycle	KEU8	KEU2
Display assessment cycle	KEU9	KEU3
Delete assessment cycle	KEUA	KEU4
Execute assessment cycle	KEUB	KEU5
Assessment overview	KEUC	KEU6

Table 1 Transaction Overview for Assessment Cycles

The assessment cycle can be executed by calling Transaction KEU5 or by following the menu path **Accounting • Controlling • Profitability Analysis • Actual Postings • Period-End Closing • Transfer Cost Center Costs/Process Costs • KEU5 – Assessment**. You select the parameters, which are the Period (**1**) and the Fiscal Year (**2015**), and enter the cycles you want to execute in the **Cycle** field ([Figure 47](#)). You can execute more than one cycle per run. You should consider the order of the cycles to be executed, however. You get a detailed protocol when you select the **Detail Lists** checkbox that shows all senders, receivers, and distributed values.

Figure 47   Executing the Actual Assessment Cycle

4　Valuation

Now that you've assigned the Sales and Distribution condition VPRS (internal price) to a value field, you can transfer the value of the materials at time of goods issue to Profitability Analysis. The system uses the price according to the material master to value the sales quantity. In the Sales and Distribution to Profitability Analysis interface, you need to assign the condition VPRS to a value field. The total value of the COGS will be transferred to this value field.

With the valuation, you can transfer details out of cost estimates to Profitability Analysis. This provides a more detailed analysis of contribution margins. Often different cost estimates are used to display different basis for valuation. The valuation in SAP makes it possible to display up to six different basis for valuation in Profitability Analysis. The valuation takes place at the time the billing invoice is transferred to Profitability Analysis.

To determine the access key to costing, you need to define and assign a valuation strategy by calling Transaction KE4U or following the IMG path **Controlling** • **Profitability Analysis** • **Master Data** • **Valuation** • **Valuation Strategies** • **Define and Assign Valuation Strategy**. Create a new valuation strategy by clicking on **New Entries**, and then navigate to the **Details** folder shown in Figure 48. The valuation strategy determines that a valuation with a cost estimate will happen if the checkbox in the **Mat. Cstg** (material costing) column is set. In addition, you need to enter the value field for the sales quantity in the **Qty Field** (quantity field) column.
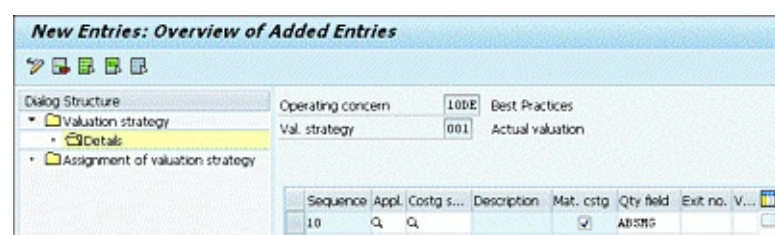
Figure 48　Creating a Valuation Strategy

Next, navigate to the **Assignment of Valuation Strategy** folder to determine when the valuation with the defined strategy will take place. The following are the different points of valuations when the valuation can take place, which can be chosen in the **Point of Valuation** column:

- **Real-Time Valuation of Actual Data**
  The valuation of the sales quantity with the cost estimate takes place at the transfer of the billing document to Profitability Analysis.

- **Periodic Revaluation of Actual Data**
  The sales quantity gets evaluated when a transaction for the revaluation is being executed at a specific point of time. The valuation takes place for all billing invoices that have been posted at that time.

- **Manual Planning**

The valuation takes place in manual planning as shown in the next section. After the planning of the sales quantities, those quantities can be valuated according to the valuation strategy. A transaction has to be executed to value the quantities with cost estimates.

- **Automatic Planning**
  Sales quantities get transferred from another module to Profitability Analysis. Those quantities can get valued with cost estimates according to the valuation strategy.

Other than the point of valuation, you need to determine the record type for which the valuation takes place. The record type is like a document type in Profitability Analysis. In Figure 49, we assigned the record type **F** (billing invoice) to the point of valuation for the actual data (**01**, **02**) and assigned to those two lines the just-created valuation strategy **001 Actual Valuation** in the **Val. Strat.** column.
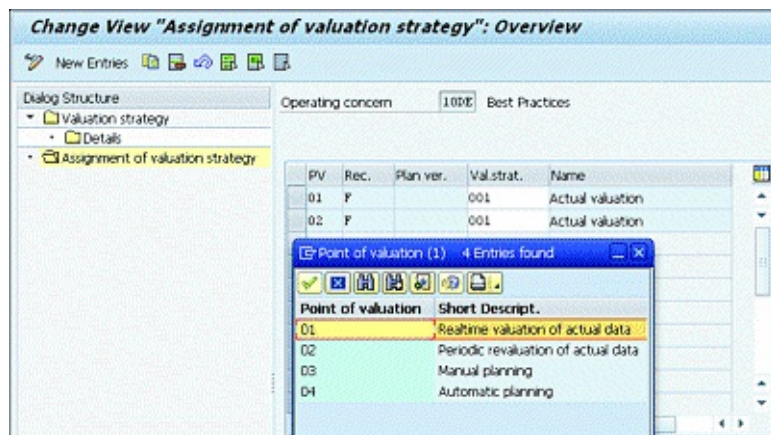
Figure 49   Assignment of a Valuation Strategy

After defining the valuation strategy, you need to define the costing key that has all details about the cost estimate with which the sales quantity gets values. To create a costing key, go to IMG path **Controlling** • **Profitability Analysis** • **Master Data** • **Valuation** • **Set Up Valuation Using Material Cost Estimate** • **Define Access to Standard Cost Estimates**.

You see an overview of all existing costing keys. For every costing variant with which you want to valuate sales quantities in Profitability Analysis, you have to create a costing key. Click **New Entries** to create a new costing key. When creating a costing key for the standard price cost estimate, you need to choose the **Transf. Standard Cost Estimate** option (transfer standard cost estimate) in the **Determine Material Cost Estimate** area shown in Figure 50. You determine in the **Costing Data** area which costing variant (**PPC1**) and costing version (**1**) will be selected for the valuation as well as the validity date.

Figure 50   Creating Access to Standard Cost Estimates

For the validity date, you have the following different options:

- **Period Indicator**

  - **Future Standard Cost Estimate According to Entry in Material Master**
    The system is taking the future standard cost estimate out of the material master, which is valid at the time of the transfer of the billing invoice for the valuation of the sales quantity.

  - **Current Standard Cost Estimate According to Entry in Material Master**
    The system is taking the current standard cost estimate out of the material master, which is valid at the time of the transfer of the billing invoice for the valuation of the sales quantity.

  - **Previous Standard Cost Estimate According to Entry in Material Master**
    The system is taking the previous standard cost estimate out of the material master, which is valid at the time of the transfer of the billing invoice for the valuation of the sales quantity.

  - **Material Cost Estimate Matching Posting Date**
    The system is taking the material cost estimate that matches the posting date of the billing invoice for the valuation of the sales quantity.

  - **Released Standard Cost Estimate Matching Goods Issue Date**
    The system is taking the released standard cost estimate according to the material master that was valid at the time of the goods issue date. It's recommended to choose this validity date to ensure reconciliation with the Financial Accounting module.

- **Period/Year**
  You define a specific period and year for the validity of the cost estimate that the system will take for the valuation of the sales quantity.

- **Costing Date**
  You can define a date at which the system will search for a cost estimate to evaluate the sales quantity.

- **Cost Estimate is Stored without Date**
  The system is looking for a cost estimate without a date to evaluate the sales quantity in Profitability Analysis.

To reconcile Profitability Analysis with Financial Accounting, it's recommended to choose **Released Standard Cost Estimate Matching Goods Issue Date**. This guarantees that the cost estimate is picked with the date the goods issue is posted in Financial Accounting, so no deviations with the financial document of the posting of the goods issue and the COGS in costing-based Profitability Analysis will occur.

It's important that the billing invoice is created in the same month that the goods issue is posted. In Profitability Analysis, you'll only see the COGS when the billing invoice is transferred. For example, if the goods issue is posted in May, you'll have a goods issue posting in Financial Accounting in May but not in Profitability Analysis if the billing invoice only gets created/posted in June. This will create variances between Financial Accounting and Profitability Analysis. To avoid these, you have to either make sure that the goods issue and the billing invoice happen in the same month or that goods issue without billing invoice gets accrued at month-end.

Apart from the costing dates, there is an **Additive Costs** checkbox in the **Costing Data** area. If this checkbox is selected, the system is only looking for manually entered additive costs and will transfer only those to Profitability Analysis. If you're working with additive costs, they are, in most cases, updated with reference to an automatically created costing estimate, so either way they are transferred to Profitability Analysis with the valuation of cost estimates.

In the **Plant Used for Reading Cost Estimate** area, you can define whether the plant out of the billing invoice line item is used to search for a cost estimate (**Use Line Item Plant as Cost Est. Plant**). If you're thinking of reconciling Profitability Analysis with Financial Accounting, you should flag this checkbox. You can also enter a specific plant where the system will search for a cost estimate in the **Specify Cost Est. Plant** field.

If you scroll down further, you'll see the **Additional CO-PA Data** area where you can choose the following two checkboxes, as shown in Figure 51:

- **Exclusive Access to Cost Estimate**
  If you want to assess your sales quantity with a couple of different cost estimates, you can't select this checkbox. The system will only look for one cost estimate and not look for others if it has found a valid one according to the valuation strategy.

- **Error Message if No Cost Estimate Found**
  The system will display an error message if no cost estimate is found for this costing key. The billing invoice can't be transferred to Profitability Analysis. Standard SAP only displays an error message if

no cost estimate can be found for any costing key.

Figure 51   Maintaining Additional Profitability Analysis Data in the Costing Key

The valuation of the sales quantity will take place for all profitability segments of the record type in the operating concern that the valuation strategy is assigned to. You also need to assign the costing keys so that the valuation can take place when transferring a billing invoice to costing-based Profitability Analysis. In standard SAP, there are three different ways to assign the costing keys.

The first possibility is to assign the costing key by material by using Transaction KE4H or following the IMG path **Controlling • Profitability Analysis • Master Data • Valuation • Set Up Valuation Using Material Cost Estimate • Assign Costing Keys to Products**. You can assign up to three different costing keys per material.

The second possibility is to assign the costing keys per material type by going to Transaction KE4J or following the IMG path **Controlling • Profitability Analysis • Master Data • Valuation • Set Up Valuation Using Material Cost Estimate • Assign Costing Keys to Material Types**. Click **New Entries** to maintain entries per material type. In the **PV** column, you determine the point of validation, and in the **RecT.** column, you determine the record type (**F**). If you're planning to execute the validation for plan data, you need to maintain a planning version in the **Plan Ver.** column. To maintain an entry for actual data, you leave the **Plan Ver.** column empty. In the **Mat. Typ** column, you determine the material type (**FERT**), and in the **Valid To** column, you assign the date until which the assignment of the costing keys is valid (**12/31/9999**). You can assign per material type as well as per product up to three different costing keys (**C. Key 1**, **C. Key 2**, and **C. Key 3** in Figure 52).

PV	RecT.	Plan ver.	Mat.typ	Valid to	C.key 1	C.key 2	C.key 3
02	F		FERT	12/31/9999	001		
03	F	1	FERT	12/31/9999	001	YB1	
03	F	2	FERT	12/31/9999	YB2	001	
04	F	1	FERT	12/31/9999	YB2	YB1	
04	F	2	FERT	12/31/9999	YB2	YB1	

Figure 52   Assigning a Costing Key to a Material Type

The last possibility—and the most flexible one—is to assign the costing keys to any characteristics that are available in the operating concern. To create the flexible assignment of costing keys, go to Transaction KEPC or follow the IMG path **Controlling • Profitability Analysis • Master Data • Valuation • Set Up Valuation Using Material Cost Estimate • Assign Costing Keys to Any Characteristics**. Click on the

blank page icon to create an assignment rule. The assignment rule works similar to a characteristics derivation. The mandatory **Source Fields** are shown in :

- **BWFKT** (**Point of Valuation**)

  The point of valuation defines whether you want to evaluate actual or plan data and at what point of time.

- **VRGAR** (**Record Type**)

  The record type determines which profitability segment gets valuated.

- **VERSI** (**Plan Version (CO-PA)**)

  The planning version needs to be maintained if the valuation needs to take place for plan data.

In addition to the mandatory source fields, you can choose any characteristics out of the operating concern to specify your assignment. In **Target Fields**, you also can choose any characteristics out of the operating concern. You must assign at least one costing key, but no more than six costing keys. If you sell materials that don't get calculated or where the **Do Not Cost** checkbox is selected in the **Costing 1** tab of the material master, you should maintain an entry in Transactions KE4H or KE4J so that the system is not searching for a cost estimate. If the sales condition VPRS (internal price) is assigned to a value field in the Sales and Distribution to Profitability Analysis interface, then you should assign **VALUE_FLD1** (Profitability Analysis value field) to the **Target Fields**. In the **VALUE_FLD1** column, you can enter the value field that is assigned to the sales condition VPRS, and when a cost estimate is found for the transferred billing invoice, the value field assigned to VPRS will get reset to zero. This way, you ensure that costs are only transferred once per billing invoice and not with the costing key and the sales condition VPRS.
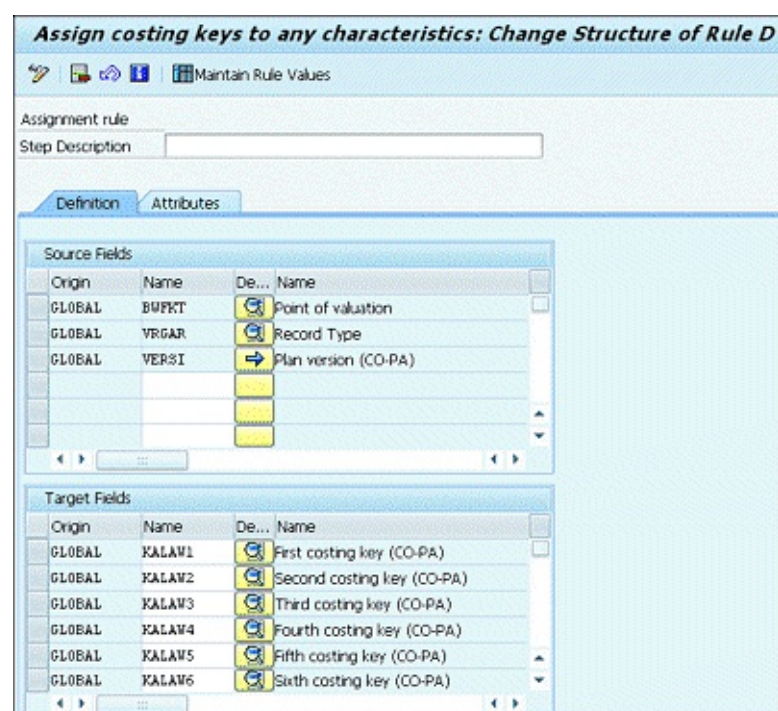
Figure 53   Assigning Costing Keys to Any Characteristics

After maintaining your source and target fields, you click on **Maintain Rule Values** to maintain the entries for the assessment rule ([Figure 54](#)). As in the characteristics derivation, you'll see all source and target fields to fill out. The assessment rule will apply according to the defined point of valuation. If you choose **01 Real-Time Valuation of Actual Data,** the sales quantity gets evaluated when the billing invoice is transferred to Profitability Analysis.

Figure 54   Maintaining Rule Values

With the transfer of the cost estimate, you probably also want to see the details of the cost estimates according to the cost component structure and not only the total values. To analyze COGS according to the cost components, you need to assign the cost components to value fields by going to Transaction KE4R or following the IMG path **Controlling** • **Profitability Analysis** • **Master Data** • **Valuation** • **Set Up Valuation Using Material Cost Estimate** • **Assign Value Fields**. The assignment takes place per operating concern and cost component structure. Click the **New Entries** button to assign the cost components (**CCo** column) at a specific point of valuation (**PV** column), as shown in [Figure 55](#). The number of the cost component equals the line item number of the cost component in the cost component structure. Per cost component, you can assign different value fields for fixed or variable costs in the **F/V** column:

- **1**: Fixed amounts

- **2**: Variable amounts

- **3**: Sum of fixed and variable amounts

In the **Fld Name 1** to **Fld Name 6** columns, you can assign different value fields per cost component and costing key. If you want to evaluate the sales quantities with different costing keys in parallel, you need to assign a different value field per costing key; otherwise, the value fields will get overwritten.

The assignment of the costing key allows you to analyze the sales quantities in Profitability Analysis with different bases for valuation for COGS. Contribution margins can also be compared for the different bases for valuation.

Figure 55   Assigning Value Fields to the Cost Component Structure

5   Planning

In costing-based Profitability Analysis, you can either plan directly in Profitability Analysis or execute Integrated Planning and transfer the planning data from the different modules.

If you decide to work with Integrated Planning, you have to maintain interfaces for the different modules with Profitability Analysis to receive planning data. When planning manually, you're working with the planning framework in SAP, which provides a wide variety of planning aids that you can use to simplify planning or simulate planning data.

You can also upload planning data from Excel. There is a technical limit of 9,999 data cells for the manual upload of Excel data, and depending on the number of characteristics and the level of detail you're using in your planning, this number might be reached quickly. For further information on the technical limit in uploading planning data, see SAP Note 1386177 (Planning Processor: Max 9999 Data Cells on Overview Screen).

5.1 Planning Levels

If you decide to plan directly in Profitability Analysis, you have to first create a planning level. Go to Transaction KEPM or follow the IMG path **Controlling** • **Profitability Analysis** • **Planning** • **Planning Framework** • **Set Up Planning Framework** to create a planning level as the basis for the manual planning process. Right-click on **Planning Levels** in the **Planning Levels** area, as shown in Figure 56.
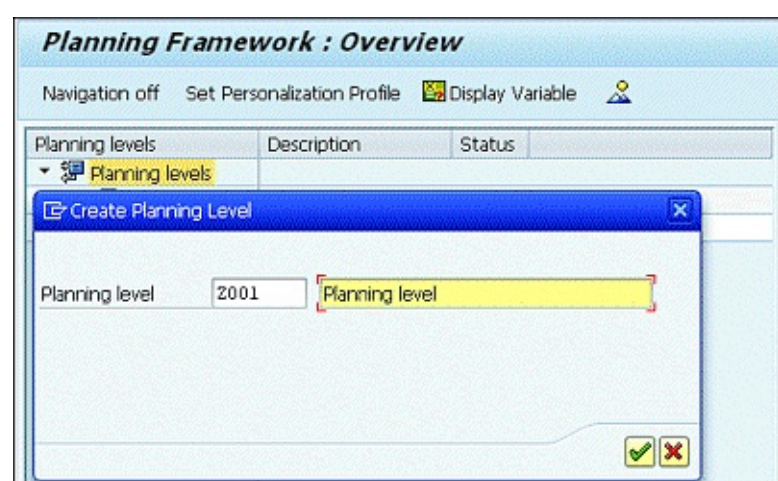
Figure 56 Creating a Planning Level

In the planning level, you assign all characteristics for which you want to maintain plan data in the **Charact**. tab. You can choose from of all characteristics that are assigned to the operating concern. In Figure 57, we assigned the following characteristics:

- **PERIO Period/Year**

- **VRGAR Record Type**

- **VERSI Version**

- **BUKRS Company Code**

- **KNDNR Customer**

- **MATNR Material**

The **Period/Year**, **Record Type**, and **Version** fields are mandatory and must be maintained in every planning level to allow manual planning. Avoid making entries in the **Selection** tab so that you don't restrict any characteristic. Characteristics for which values in the **Selection** tab are maintained can't be changed at a later time, so to maintain maximum flexibility, don't make any entries here.
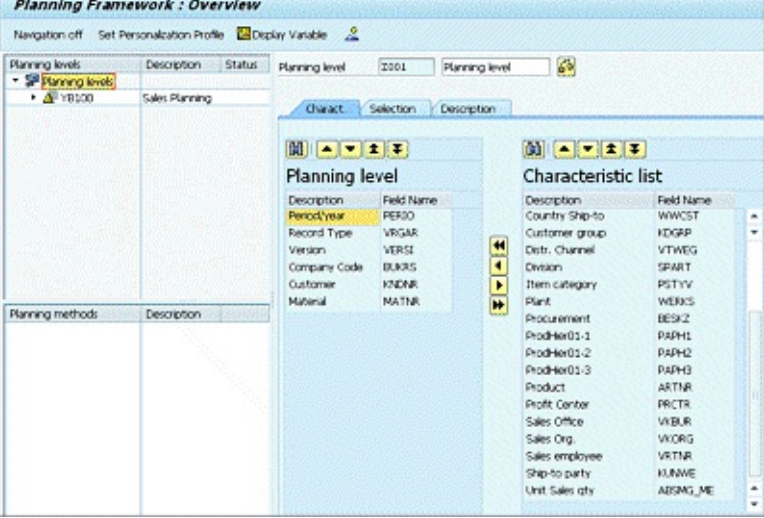
Figure 57   Assigning Characteristics to a Planning Level

5.2   Planning Package

After the creation of the planning level, you need to create a *planning package* in which you default the characteristics or define characteristics as variables.

To define variables, you first have to create them by following the menu path **Edit • Variable • Define Variable**.

You create variables per characteristic. In the **Characteristic** column, you can choose from all characteristics you assigned to the operating concern. You define the name of the variable in the **Variable** column. Variables usually start with the **$** sign. The variables also have a description and a validity as you can see in Figure 58. The variables can be used for any planning framework if the characteristic is assigned to the planning level.
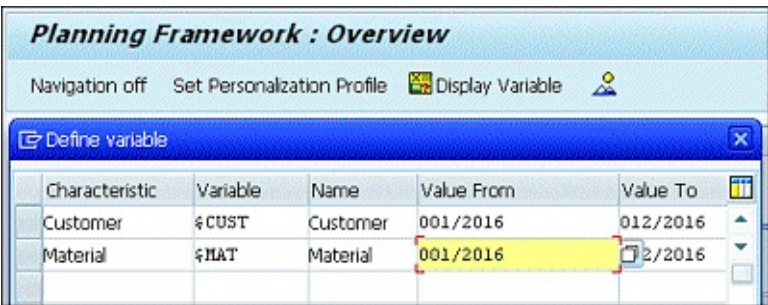
Figure 58   Defining Variables for a Planning Framework

The planning package gets created with reference to the planning level. Right-click on the **Planning Level** that is now displayed in the **Planning Levels** pane in Figure 59. The procedure of creating a planning package is identical to the creation of a planning level.

In the planning package, you see an overview of all characteristics that have been assigned to the planning level. You can now default characteristics or define them as variables. In Figure 60, we defaulted all characteristics and maintained the characteristics **Customer** and **Material**—the ones we created in Figure 58—as variables. The characteristics defined as variables are the only characteristics that can be changed during the manual planning. For all other characteristics, the system expects the defaulted values. For example, you can't upload/maintain planning data for any company other than 1000 with the planning framework created in this example.

Figure 59   Creating a Planning Package
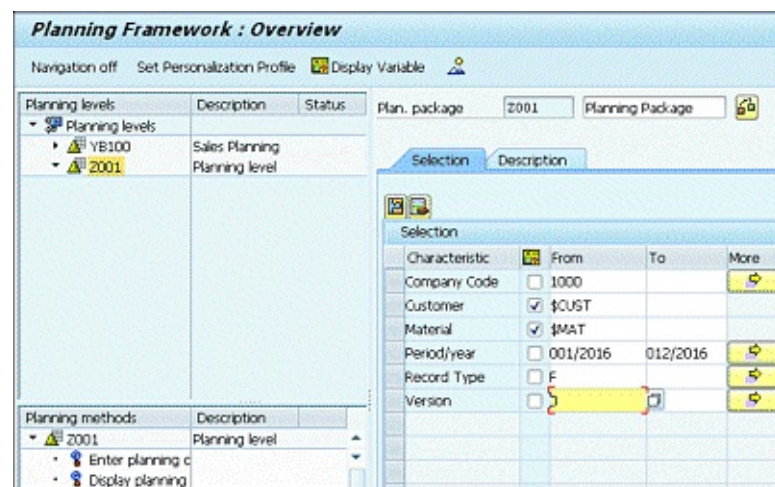
Figure 60   Maintaining Characteristics in the Planning Package

5.3 Parameter Sets

The planning level and the planning package build the basis for the maintenance of planning data. The next step is to create a planning method, which allows you to enter planning data and to enrich and revise planning data with different methods (e.g., valuation, top-down distribution, etc.). You'll find an overview of the most frequently used methods in Section 5.4. To create a planning method for manually entering planning data, select **Enter Planning Data**, and create a **Parameter Set** by right-clicking on **Enter Planning Data** shown on the left side of Figure 61.
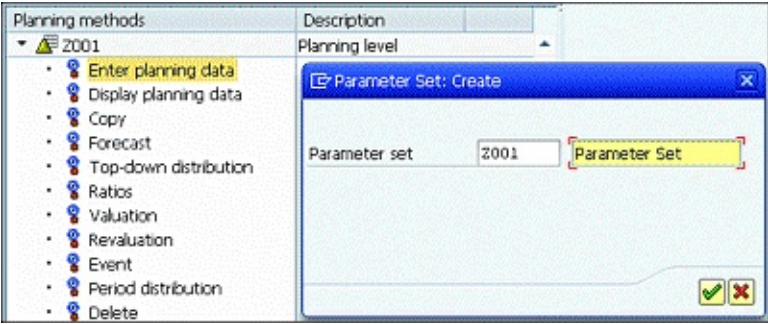
Figure 61   Creating a Parameter Set

In the **Settings** tab of the parameter set, you can define the **Currency** in which the planning data is entered in the **Control Data for Manual Planning** area. If you don't enter a value here, the system will use the currency of the operating concern as default. It's useful to select the **Zero Suppression In** checkboxes for both **Display** and **Posting**, as shown in Figure 62. The zero suppression option means that no profitability segments with zero value will be displayed or posted, which improves performance in manual planning.
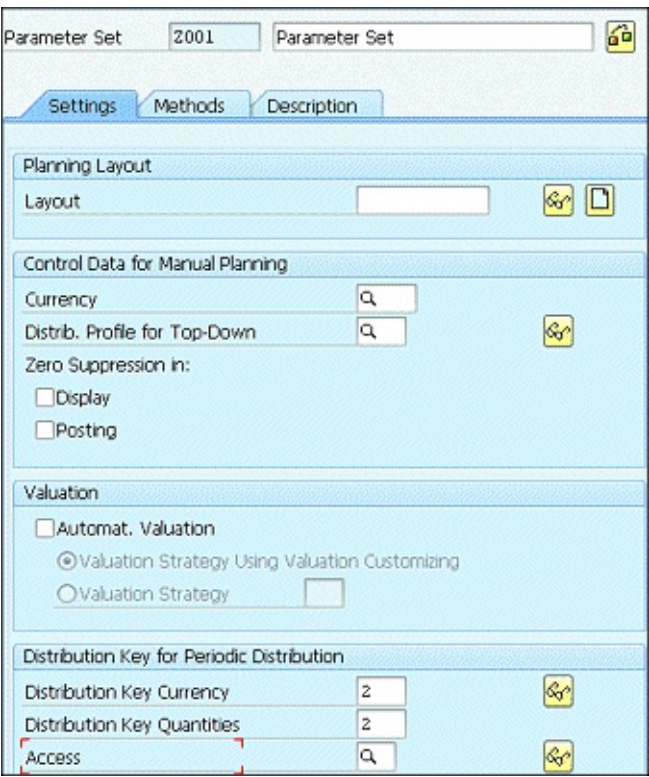
Figure 62   Maintaining the Parameter Set

To upload Excel files for manual planning, you need to select the **Active** checkbox in the **Integrated Excel** area, as shown in Figure 63.

Figure 63   Selecting Excel Integration

To enter planning data, you need to create a planning layout and assign it to the parameter set. Click on the blank sheet icon in the **Planning Layout** area, and a new screen appears, as shown in Figure 64. In the **Charact.** tab, you see an overview of all characteristics that were assigned to the planning level. Choose whether those characteristics will be shown in the header or in the lead column of the planning layout by selecting them in either the **Header** or **Lead Column** columns.
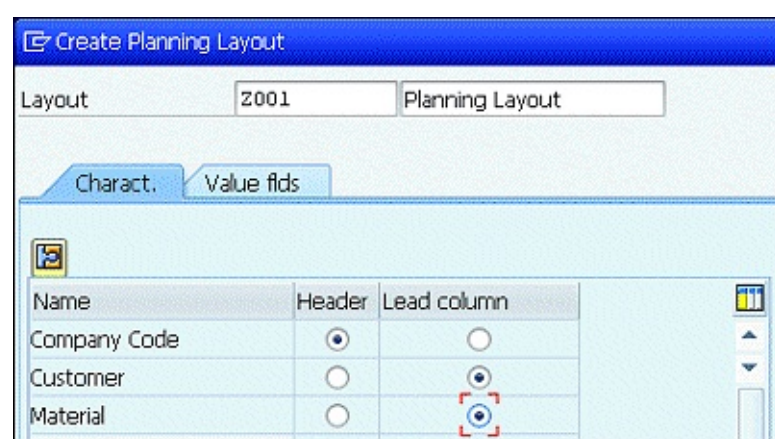
Figure 64   Creating Planning Layout Characteristics

Now that you've assigned the characteristics to the respective columns, go to the **Value Flds** tab to select the value fields on which you want to maintain planning data (Figure 65). Choose the value fields from the **Value Fields** area and move them with the arrows to the **Selected** area. Save your choices, and the screen will go back to the parameter set. The layout is automatically assigned to the parameter set when created out of the parameter set. Save the parameter set so you can enter manual planning data.

To execute or view the just-created layout to enter planning data, go to **Enter Planning Data** in the **Planning Methods** area, and execute the just-created parameter set by right-clicking on **Execute Method** (Figure 66). To successfully open the layout with Excel integration, you must enable macros. The Excel sheet to enter the planning data is always protected when executed out of the planning framework, so you must go to **Review • Unprotect Sheet** to unprotect the sheet and make planning entries. You can save the file in Excel and maintain your entries there to upload it later to Profitability Analysis.
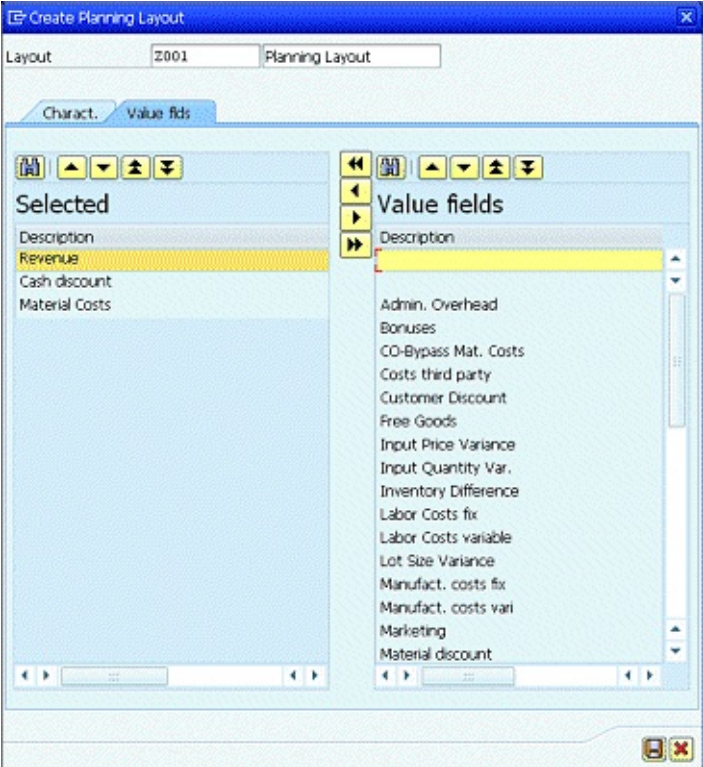
Figure 65   Creating Planning Layout Value Fields
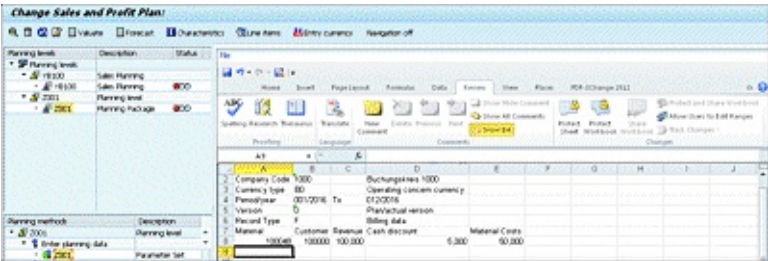
Figure 66   Executing Manual Planning

If you want to create more complex planning layouts, you can do so by calling Transaction KE14 or by following the IMG path **Controlling • Profitability Analysis • Planning • Manual Entry of Planning Data • Define Planning Layout**. The transaction looks similar to the Report Painter and allows you to maintain more complex layouts.

5.4   Planning Aids

Manual planning in Profitability Analysis offers many planning methods to simplify and enhance the planning functionalities. Let's look at the most common ones.

- **Enter planning data**
  You can enter planning data manually or use an Excel upload of planned data.

- **Display planning data**
  You can display planning data when executing the method for entering planning data, but you still will be able to make changes. To create a method that only allows the display of planning data, you need to create a parameter set to display the planning data.

- **Copy**
  To copy planning data in another company code or in another time period, you can create a parameter set. The parameter set allows you to copy, add, or subtract values. You can also transform characteristics with the help of the parameter set for copying planning data. The parameter set allows you to change all characteristics assigned to the planning level. The copy functionalities can also be limited to value fields.

- **Forecast**
  The forecast planning aid can be used to project future values in a time series. To create a forecast parameter set, you need to first create a forecast profile with Transaction KE1T or by following the IMG path **Controlling • Profitability Analysis • Planning • Planning Aids • Forecast Profile • Maintain Forecast Profiles**. The forecast profile has a group of parameters/calculation factors assigned that determines how the forecast is calculated.

- **Top-down distribution**
  You can distribute values that you planned with manual planning to other value fields that aren't assigned to the planning level. Choose the reference value fields and characteristics that are the basis for the distribution before you choose the receiver value fields. The execution of the top-down distribution can also be done with Transaction KE28 or by following the menu path **Accounting • Controlling • Profitability Analysis • Actual Postings • Period-End Closing • Top-Down Distribution • KE28 – Execute**.

- **Valuation**
  The valuation allows valuating sales quantities with cost estimates. To valuate quantities with cost estimates, you need to create a valuation strategy. In Chapter 4, you learned how to create a valuation strategy.

- **Period distribution**
  You can distribute planned values according to various criteria. You need to maintain a distribution key in the parameter set to allow the distribution of planned values. Standard SAP provides some distribution keys:

- **Equal distribution**

  Values are distributed equally across all periods.

- **Analog distribution**

  Entry values are distributed according to the previous distribution.

- **Percentage-based distribution**

  Planning values are distributed according to percentage rates that are entered manually.

The preceding planning aids are only examples of how you can enhance your planning data and simplify planning. Many more planning aids are offered in the Profitability Analysis planning framework.

5.5 Integrated Planning

Apart from manual planning, you can work with Integrated Planning to transfer planning data from Logistics modules or predecessor Controlling submodules to Profitability Analysis. This way, you guarantee a planning consistency across modules and save time by not entering planning data twice. Integrated Planning offers several interfaces to transfer planning to the predecessor modules, as described in the following list. The transactions to configure the interfaces can be found following the IMG path **Controlling** • **Profitability Analysis** • **Planning** • **Integrated Planning**.

- **Transfer Cost Center Planning/Process Planning**
  In Section 3.6, we described how to create assessment cycles for planning. With the help of the assessment cycles, planning data from cost centers gets transferred to Profitability Analysis.

- **Transfer Order/Project Planning**
  In Section 3.5, we described how to create settlement rules and settle internal orders in actual data. The prerequisite for settling an internal order in planning is that the **Plan-Integrated Order** checkbox is set in the **Control Data** tab in the master data of the internal order. The settlement rule for the internal order in planning can only be maintained if this checkbox is set. If you go to the maintenance of the internal order, you'll find a **Plan Settlement** button. For the settlement of internal orders in plan, you use Transaction KO9E via menu path **Accounting** • **Controlling** • **Internal Orders** • **Planning** • **Allocations** • **Settlement** • **KO9E – Individual Processing**. With the settlement in plan, you can transfer planning data from internal orders to Profitability Analysis.

- **Transfer Sales Quantities to S&OP**
  You can transfer sales quantities to Sales & Operations Planning (PP-SOP) in Production Planning if you maintain a characteristics group in configuration and then execute Transaction KE1E or follow the menu path **Accounting** • **Controlling** • **Profitability Analysis** • **Planning** • **Integrated Planning** • **KE1E – Transfer Sales Quantities to SOP**. The transfer of the sales quantities takes place on the material level.

- **Define LIS Interface**
  You can transfer planning data if you link the Logistics Information System (LIS) characteristics to Profitability Analysis characteristics and the LIS values to Profitability Analysis value fields.

- **Set Up Transfer of Planning Data to Profit Center Accounting/ General Ledger/Special Purpose Ledger**
  It's possible to transfer planning data from Profitability Analysis to Profit Center Accounting and Financial Accounting. Because Profit Center Accounting is integrated with the New General Ledger into Financial Accounting, we won't explain the transfer to Profit Center Accounting. With the changes in Integrated Planning in SAP, the planning will be banned from Financial Accounting so we won't further explain transfer of planning data from Profitability Analysis to Financial Accounting.
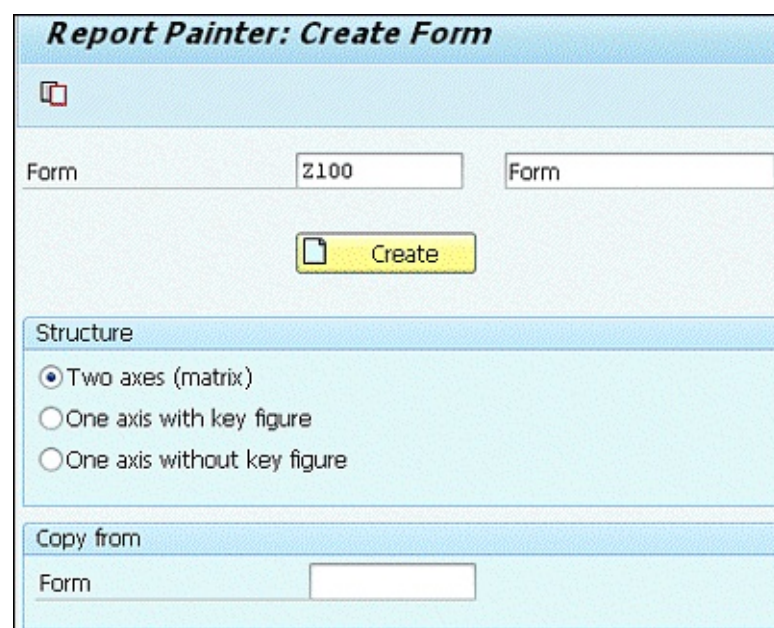
6   Reporting

Just like there's no standard configuration for Profitability Analysis, there's no standard reporting here either. Every report needs to be created or designed on its own. The technique used for the creation of reports is similar to the technique of the Report Painter or Report Writer.

6.1   Creating a Form

To create a report in Profitability Analysis, you first have to create a form that later gets assigned to a report. Go to Transaction KE34 or follow the menu path **Accounting • Controlling • Profitability Analysis • Information System • Current Settings • KE34 – Define Forms for Profitability Reports**. The form describes the structure and the layout of the report. You can create forms by copying from an existing form. In the **Structure** area in Figure 67, choose the **Two Axes (Matrix)** radio button if you want to create a report with characteristics and key figures.

Figure 67   Creating a Report Form

In the form itself, you define the structure and the layout of the report by defining rows and columns. In Figure 68, you can create a row by double-clicking on any row. The pop-up that appears offers the following options:

- **Characteristics**
  You can assign any characteristic that is assigned to the operating concern to the row (e.g., period, year, version, and so on).

- **Value Field with Characteristics**
  You can assign both a characteristic and a value field to the row (e.g., value field sales with characteristic material type to display sales for a specific material type).

- **Key Figure Scheme Element**
  In configuration, you can create key figure schemes to create complex formulas with the key figures (value fields). These key figure elements can be used in reporting. To create a key figure scheme, go to Transaction KER1 or follow the IMG path **Controlling • Profitability Analysis • Information System • Report Components • Define Key Figure Schemes**.

- **Predefined Element**
  You can choose an element of a one-axis report as template.
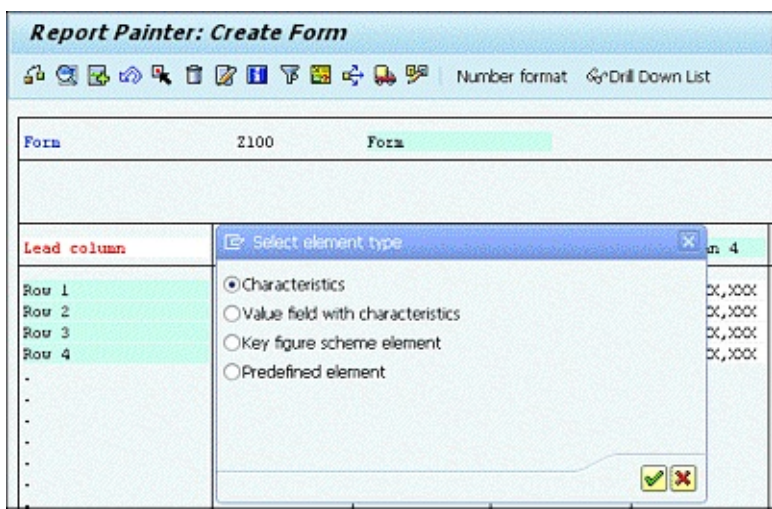
Figure 68 Creating a Row

Select **Value Field with Characteristics** from the pop-up, and choose the value field you want to assign to the row on top of the pop-up. In Figure 69, we chose the **Revenue** value field. In addition to the value field, choose the characteristics (customer, sales organization, distribution channel, and division) to specify the line. If you want to determine one characteristic as a variable to be entered in the selection criteria of the report, you need to select the checkbox in the variable on/off (🖾) column in the pop-up as shown in Figure 69. In the **Local Variable** field, you directly determine the variable. Every local variable starts with a **$** followed by up to nine numbers for the short description/technical name. When you confirm your entries, you can use the pencil and paper icon to enter a short/medium and long text for your row before you actually create the row.

After your rows have been defined, create columns by double-clicking on any of the columns available. The pop-up asks you to define a column with **Characteristics** or with a **Predefined Element** as shown in Figure 70.
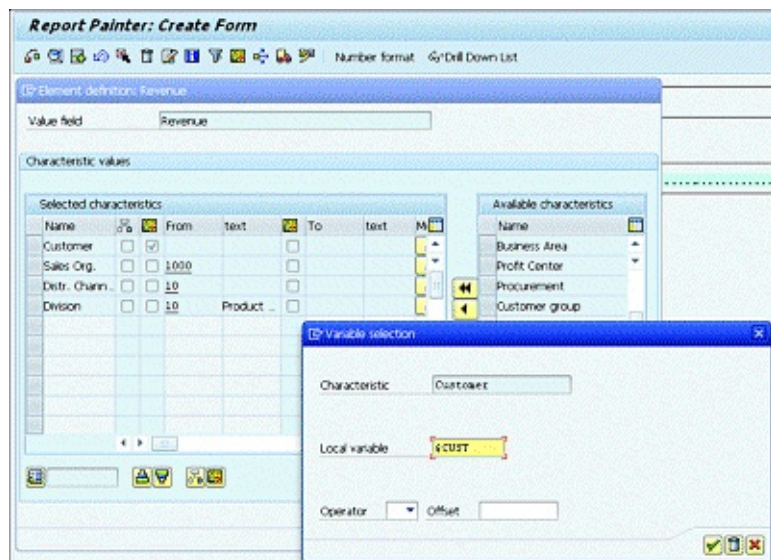
Figure 69 Creating a Variable for the Row
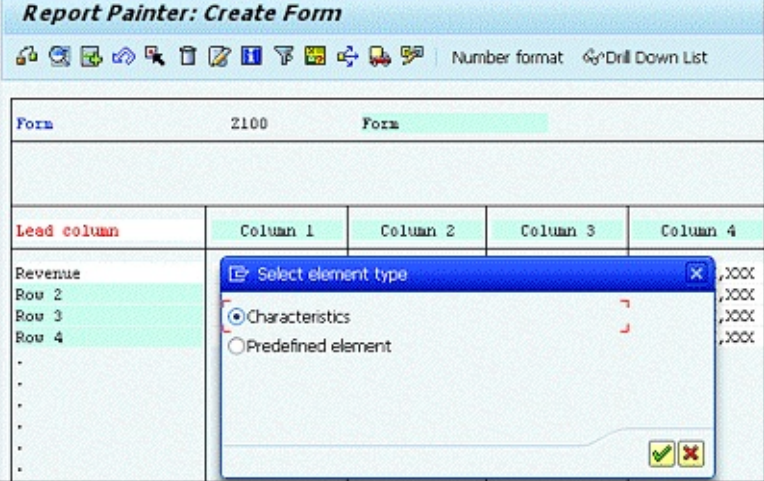
Figure 70 Selecting the Element Type for a Column

In the screen shown in Figure 71, you assign different characteristics to the column. You can also define variable descriptions for the columns if you follow the menu path **Extras** • **Variables** • **Variables Definition**. After you've created the variables, you need to assign them to the short/middle or long text of the column description so that they appear in the execution of the report.
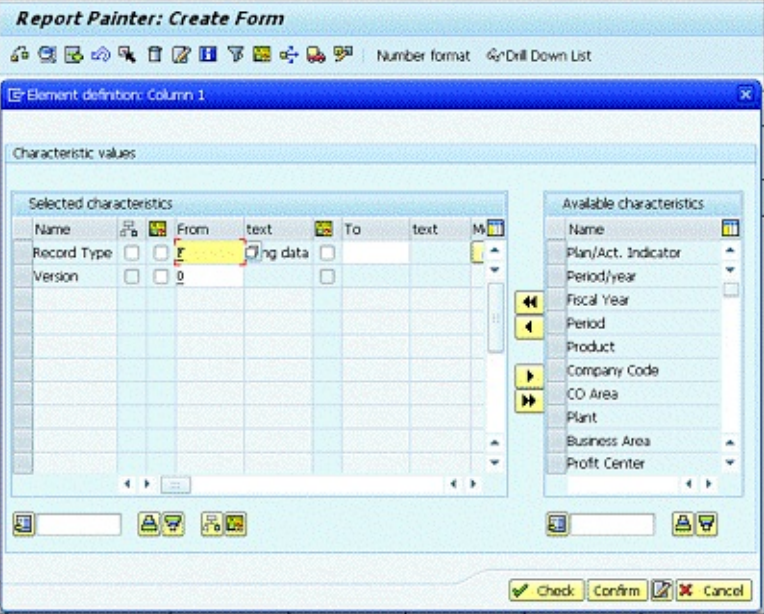
Figure 71 Creating a Column

After defining the rows and columns of the form, you need to create the general data to save the form. Go to **Edit** • **General Data Selection** • **Gen. Data Selection**. Assign the general characteristics to the form (e.g., controlling area or other variable characteristics) to be part of the selection criteria of the report later (Figure 72).
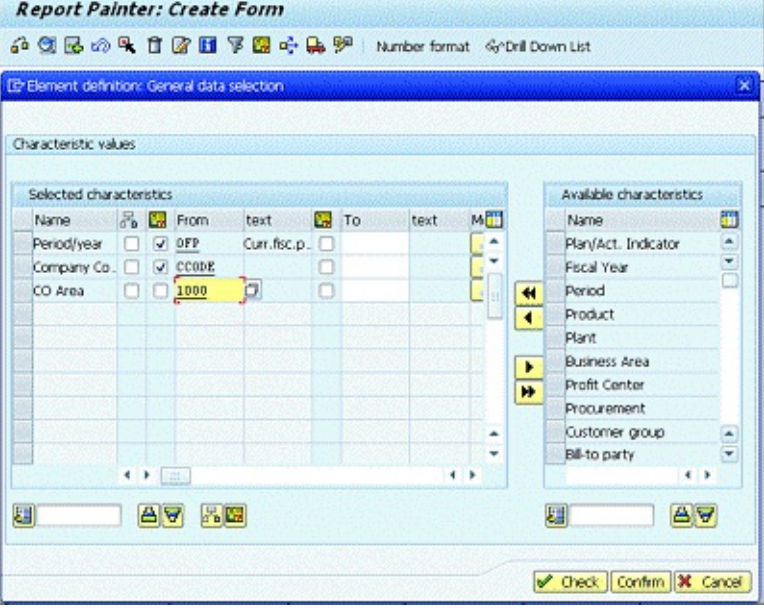
Figure 72   Creating General Data Selection

6.2   Creating a Report

To create a report in Profitability Analysis, go to Transaction KE31 or follow the IMG path **Controlling •
Profitability Analysis • Information System • Report Components • Define Forms • Define Forms for
Profitability Reports • Create Report**. Create a report with a form by selecting the **Report with Form**
radio button in the **Report Type** area and entering the form in the respective field, as shown in Figure 73.

Four tabs are available when creating a report. In the **Characteristics** tab shown in Figure 74, you define
additional characteristics that you want to use to further drill down the results of your report.
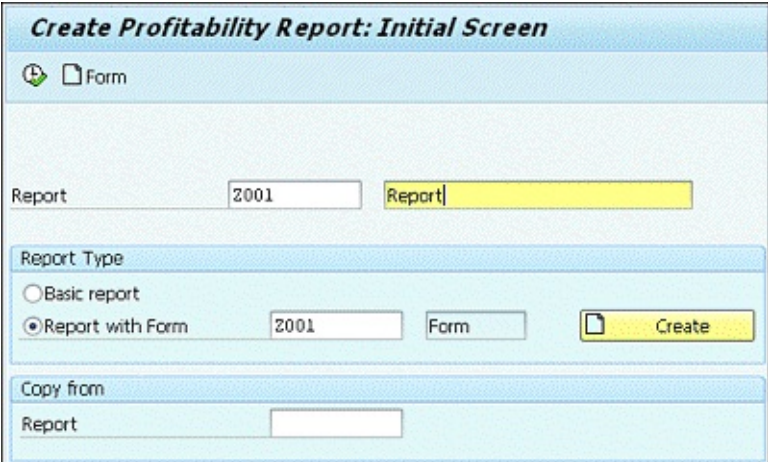
Figure 73   Creating a Report
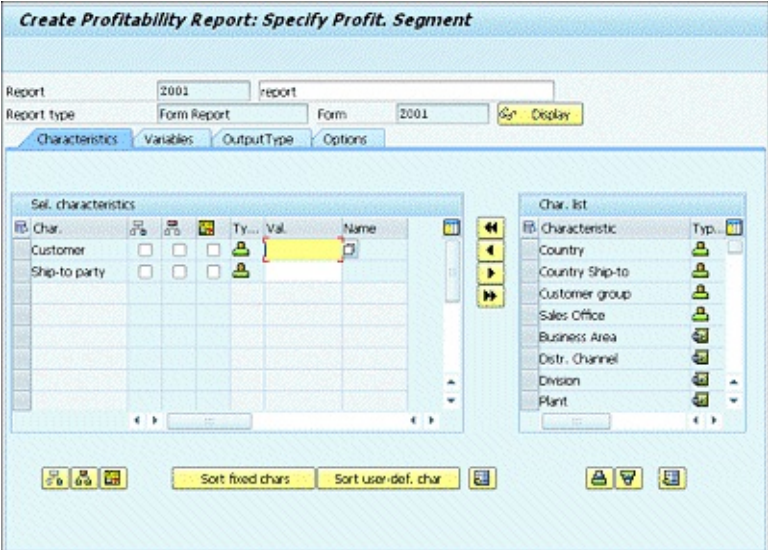
Figure 74   Defining Characteristics for a Report

In the **Variables** tab shown in Figure 75, you can default all characteristics that you defined in the form as
variables.
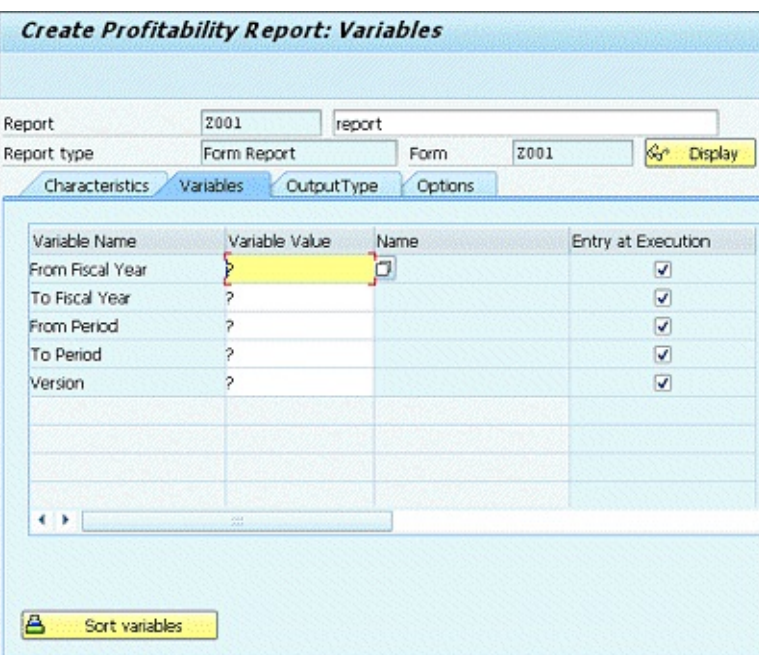
Figure 75 Default Variables for a Report

In the remaining tabs, you can determine the following:

- **Output Type**
  This tab is where you define the output type of the report such as object list (ALV), classic drilldown, and so on.

- **Options**
  This tab is where you maintain print setup settings as well as performance settings. In the performance settings, you can determine whether the system will work with presummarized data or not.

When you've maintained all four tabs, you can save and execute the report to analyze your data in Profitability Analysis.

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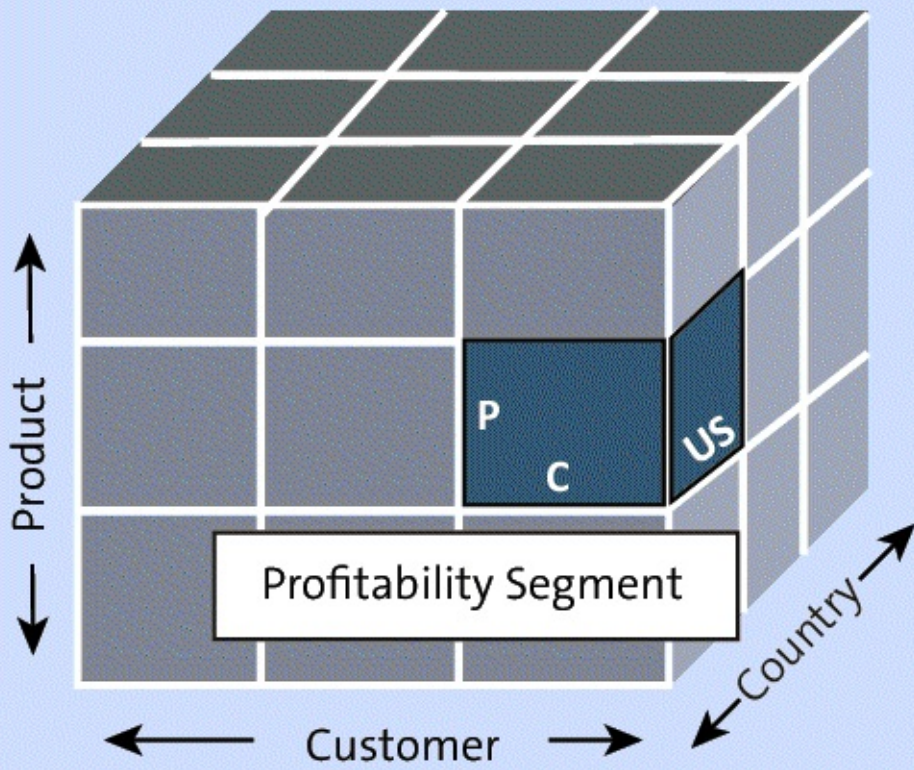
Figure 1   Function of Profitability Analysis
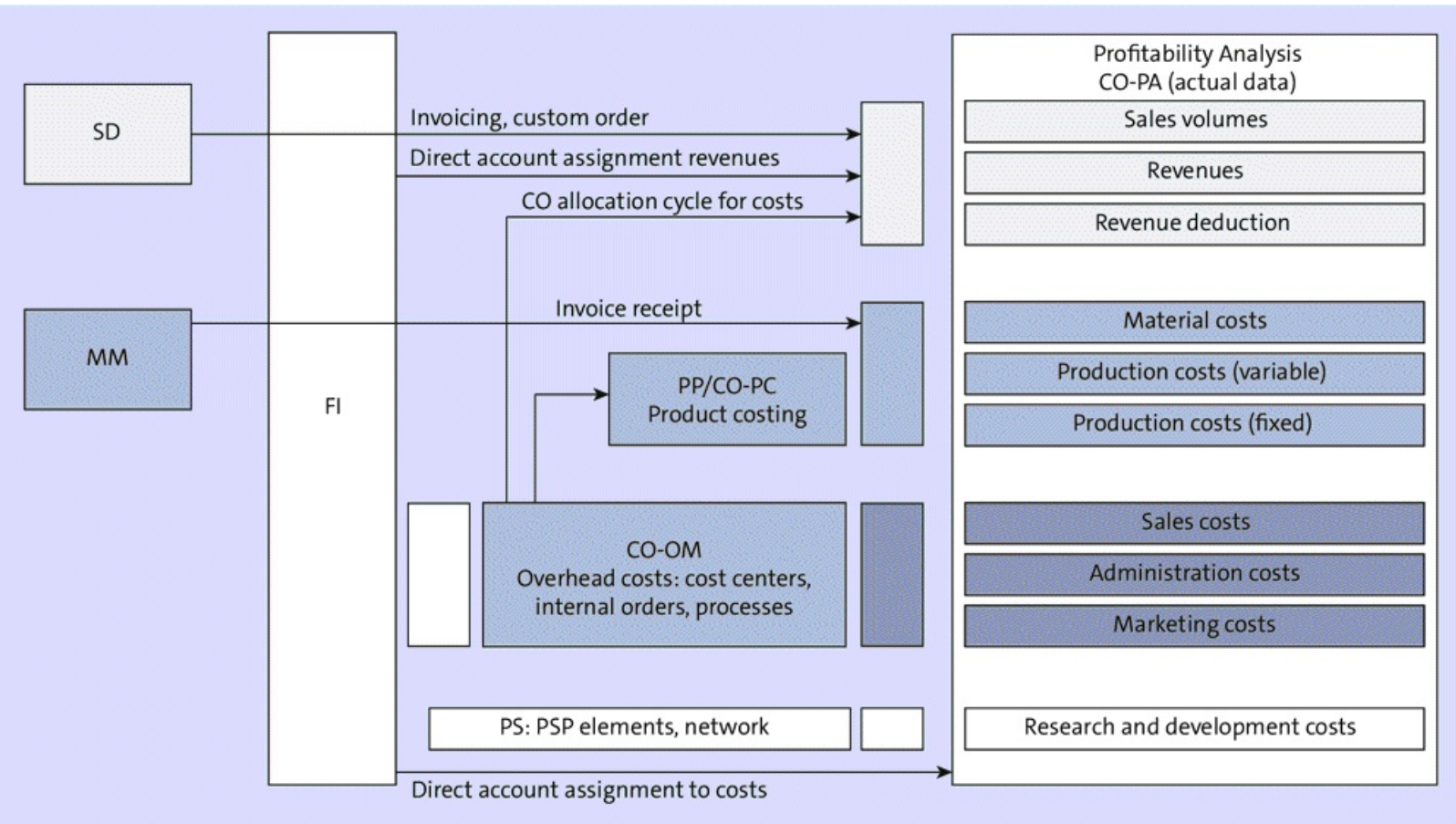
Figure 2   Value Flow in Profitability Analysis

Figure 3   Creating a Value Field

Figure 4 Defining Attributes for the Value Field
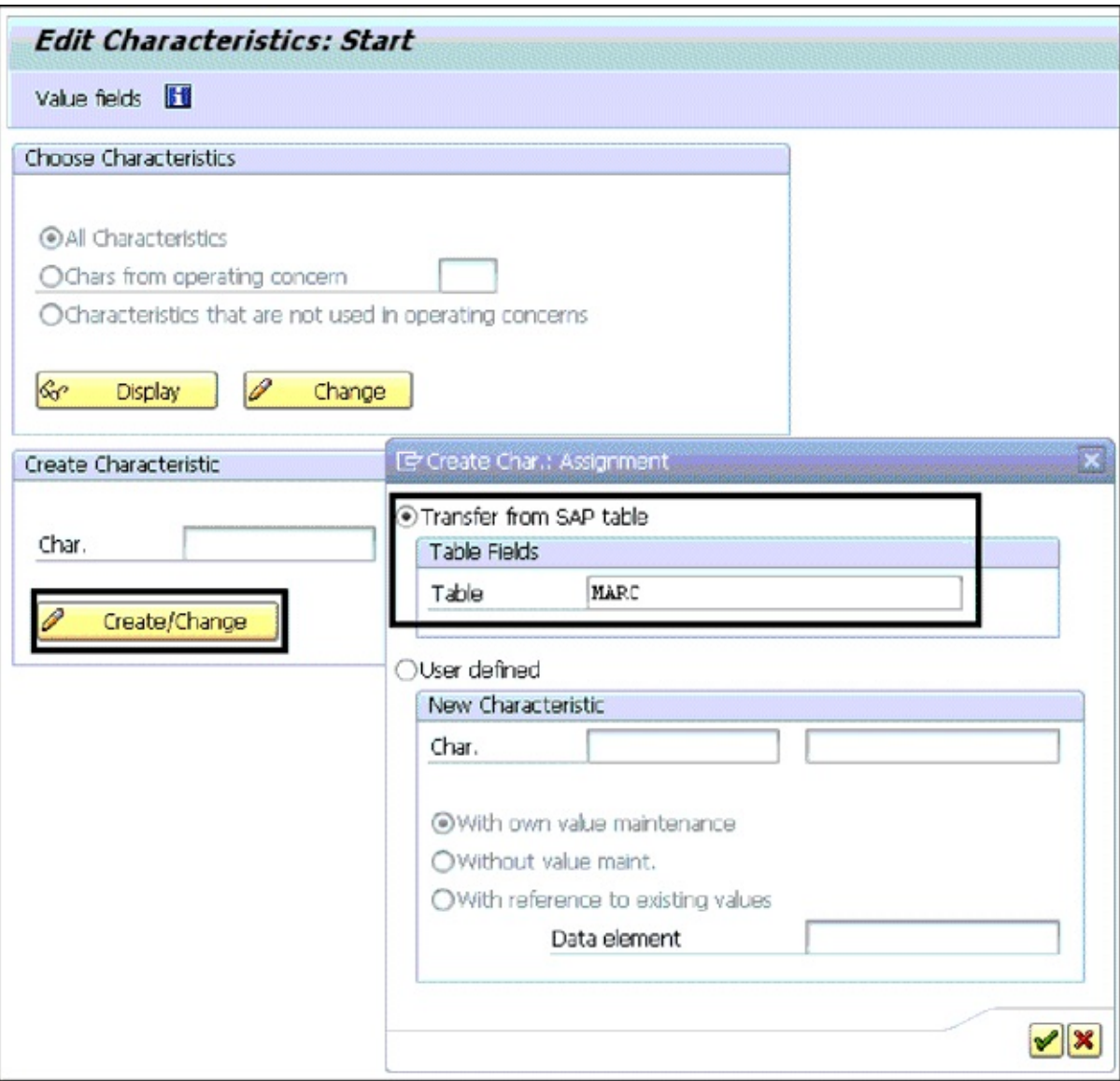
Edit Characteristics: Start

Value fields

Choose Characteristics

⦿ All Characteristics
◯ Chars from operating concern
◯ Characteristics that are not used in operating concerns

[👓 Display] [✏ Change]

Create Characteristic

Char. [   ]

[✏ Create/Change]

Create Char.: Assignment

⦿ Transfer from SAP table
  Table Fields
  Table   MARC

◯ User defined
  New Characteristic
  Char. [   ] [   ]

  ⦿ With own value maintenance
  ◯ Without value maint.
  ◯ With reference to existing values
     Data element [   ]

✔ ✖

Figure 5   Creating Characteristics from an SAP Table

Figure 6   Choosing a Characteristic from the Reference Table

Create Char. HERKL

Display compound

Characteristic	HERKL

Texts

Description	Ctry of origin
Short text	Origin
Heading	Orig

Further Properties

Status		do(es) not exist
Display opt.	Q	Not assigned

ABAP Dictionary

Data element	HERKL
Domain	LAND1
Data type/length	CHAR	3	ConvR. ☐

Validation

○ No check
○ Fixed values
⦿ Check table   T005

Text table	T005T
Text field	LANDX
Long text field	

Origin

Origin table	MARC
Origin field	HERKL

Figure 7   Activating a Characteristic

Figure 8   Create a Characteristic with Own Value Maintenance

Create Char. WW999

👤 ✏️ 🗃️ 🗂️ 📏 ⇗ 📄 📋 Display compound Assign Check Table ℹ️

Characteristic	WW999

Texts

Description	Continent
Short text	Continent
Heading	Continent

Further Properties

Status		do(es) not exist
Display opt.	🔍	Not assigned

ABAP Dictionary

Data element	
Domain	
Data type/length	CHAR 3 ConvR. ☐

Validation

- ○ No check
- ○ Fixed values
- ◉ Check table   T25**
  - Text table   T25**
  - Text field
  - Long text field

Origin

Origin table	
Origin field	

Figure 9   Maintain Attributes of Characteristics
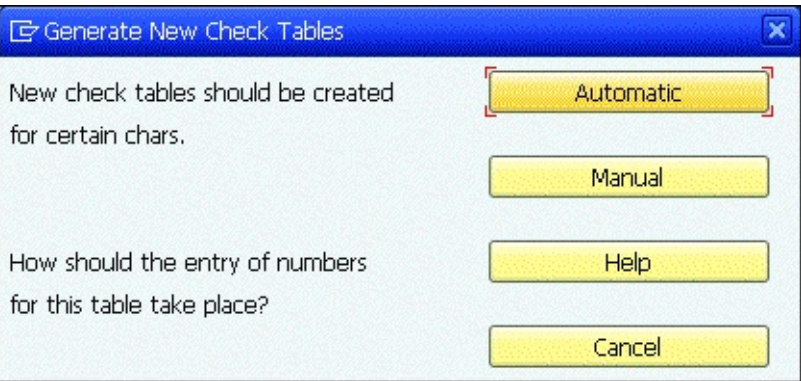
Figure 10   Generating Tables for New Characteristics

Figure 11   Create Characteristic Values Screen
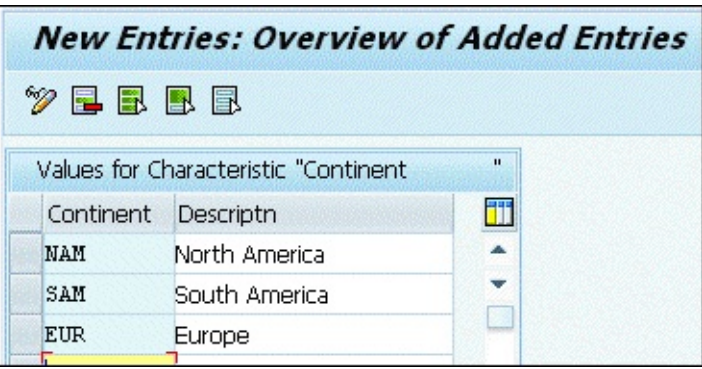
Figure 12   Maintaining Characteristic Values
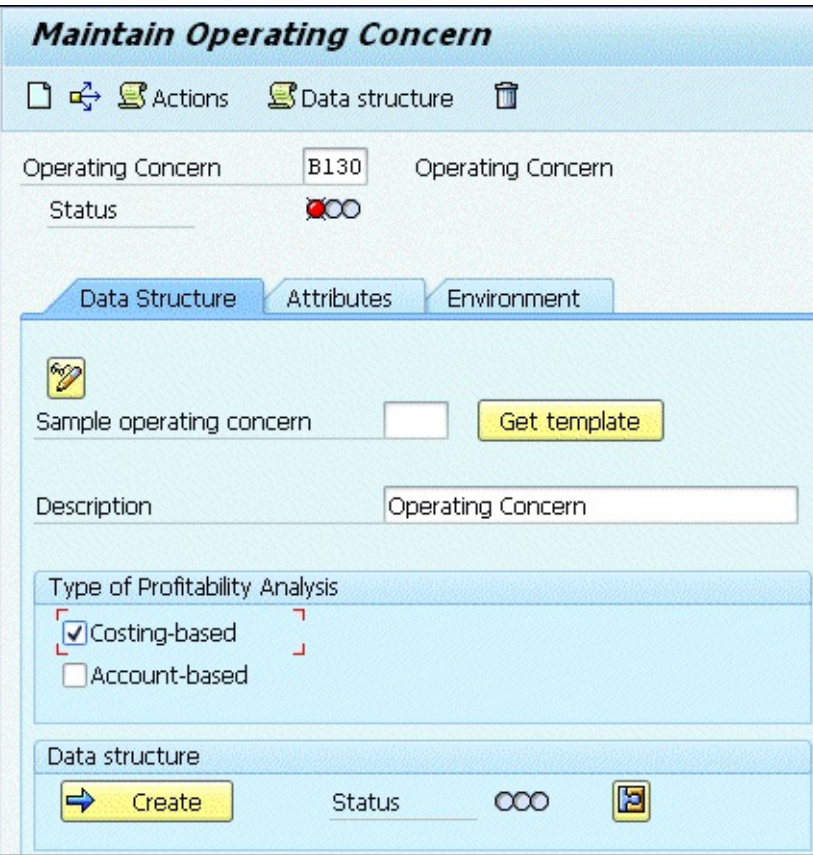
Figure 13   Creating an Operating Concern

Edit Data Structure: Characteristic Screen

Data structure

| CE1B130 |
| Operating Concern |

Status   New

Processing

Change view

Copy from

Field catalog

<all fields>

Chars | Value fields

Data structure

Characteristic	Description	
BZIRK	Sales district	
HERKL	Ctry of origin	
KMBRND	Brand	
KMKDGR	Customer group	
KMLAND	Country	
KMMAKL	Material Group	

Transfer from

Characteristic	Description	
KMKDGR	Customer group	
KMLAND	Country	
KMLEGS	Route segment	
KMMAKL	Material Group	
KMNIEL	Nielsen ID	
KMOPDY	Day of operation	
KMORIG	Departure Location	
KMROUT	Rotation	
KMSTGE	Strat. Business Unit	
KMVKBU	Sales Office	
KMVKGR	Sales Group	
KMVTNR	Sales employee	

Figure 14   Assigning Characteristics to the Operating Concern

Fixed Fields

Fixed fields of data structure

| Charact. | Techn. fields | Acctg amounts |

Field name	Description	Use	DT...	Length	Orig.Table	Data element
ARTNR	Product	F	CHAR	18	MARA	ARTNR
BUKRS	Company Code	F	CHAR	4		BUKRS
FKART	Billing Type	F	CHAR	4		FKART
GSBER	Business Area	F	CHAR	4		GSBER
KAUFN	Sales Order	F	CHAR	10		KDAUF
KDPOS	Sales Ord. Item	F	NUMC	6		KDPOS
KNDNR	Customer	F	CHAR	10	KNA1	KUNDE_PA
KOKRS	CO Area	F	CHAR	4		KOKRS
KSTRG	Cost Object	F	CHAR	12		KSTRG
PPRCTR	Partner PC	F	CHAR	10		PPRCTR
PRCTR	Profit Center	F	CHAR	10	MARC	PRCTR
PSPNR	WBS Element	F	NUMC	8		PS_PSP_PNR
RKAUFNR	Order	F	CHAR	12		AUFNR
SPART	Division	F	CHAR	2	MARA	SPART
VERSI	Version	F	CHAR	3		RKEVERSI
VKORG	Sales Org.	F	CHAR	4	MVKE	VKORG
VRGAR	Record Type	F	CHAR	1		RKE_VRGAR
VTWEG	Distr. Channel	F	CHAR	2	MVKE	VTWEG

Figure 15 Displaying Fixed Characteristics

Edit Data Structure: Value Field Screen

Data structure
CE1B130
Operating Concern
Status   New

Processing
Change view

Copy from
Field catalog
<all fields>

Tabs: **Chars** | **Value fields**

Data structure

Value field	Description
ABSMG	Sales quantity
ERLOS	Revenue
KWFKFX	Fixed prod. costs
KWFKVA	Variable prod.costs
KWABLK	Prod. cost variance

Copy from

Value field	Description
KWBRUM	Gross sales
KWCATR	Catering
KWCRGK	Crew salaries
KWCRWK	Crew expenses
KWDEPR	Depreciation
KWEURO	Overflight Fees
KWEXLR	Excess luggage
KWFKFX	Fixed prod. costs
KWFKVA	Variable prod.costs
KWFLHR	Flight hours
KWFLKM	No. of km flown
KWFLSC	Flight cost of sales

Figure 16   Assigning Value Fields to an Operating Concern

Figure 17   Maintaining Attributes in the Operating Concern

Figure 18   Generating the Operating Concern Environment

Figure 19   Defining the Characteristics Hierarchy

Figure 20   Maintaining the Hierarchy

Report Painter: Create Form

Number format Drill Down List

Element definition: Row 1

Characteristic values

Selected characteristics

Name			From	text		To	text	M
Country	☑	☐			☐			

Available characteristics

Name	
Material Group	

Hierarchy node selection: Country

Hie:Country   Z1   Continent

Grp:Country

✔ 🔄 📋 Variable on/off 🔲 Hierarchy from ✖

✔ Check Confirm 📝 ✖ Cancel

Figure 21   Using the Characteristics Hierarchy in a Profitability Report

Figure 22 Creating a Derivation Rule

Figure 23 Defining the Characteristics Derivation Rule

Figure 24   Maintaining Rules

Figure 25   Attributes of the Derivation Rule

Figure 26 Assigning Sales and Distribution Conditions to Value Fields

Figure 27 Assigning Sales and Distribution Quantity Fields to Value Fields

Figure 28   Resetting Value/Quantity Fields

Change View "CO-PA: Active Flag for Transfer of Incoming Sales Orders"

COAr	Name	From FY	Op....	Inc.SO	Inc. Ord. Desp. FB	Hist.ER Order...
0001	Kostenrechnungskreis 0001	1992	S001		☐	☐
0MB1	IS-B Musterbank Deutschl.	1990			☐	☐
1000	Kostenrechnungskreis OT	2011	1ODE		☐	☐
B030	ACME Controlling Area	2011	B030		☐	☐
B030	ACME Controlling Area	2012	B030		☐	☐
B130	Controlling Area	2015			☐	☐
BE01	Kostenrechnungskreis BE01	1995	S001		☐	☐
BE01	Kostenrechnungskreis BE01	1997	S001		☐	☐

Transfer Incoming Sales Orders to CO-PA (1)   4 Entries found

Inc. sales or...	Short Descript.
	Inactive
1	Active with date of entry
2	Active with Deliv.Date/Billing Plan Deadline (Using KWMENG)
3	Active with Deliv.Date/Billing Plan Deadline (Using KBMENG)

Figure 29   Activating the Transfer of Incoming Sales Orders

Figure 30　Maintaining Assignments in the Profitability Analysis Transfer Structure

Figure 31　Maintaining the Source for Assignment in the Profitability Analysis Transfer Structure

Figure 32   Assigning a Value Field to the Profitability Analysis Transfer Structure

Figure 33   Assigning a Profitability Analysis Transfer Structure to a Settlement Profile

Figure 34 Defining Assignments for Direct Assignment from Financial Accounting/Materials Management

Figure 35   Maintaining Cost Element and Source for Assignment

Figure 36 Maintaining a Value Field for Direct Account Assignment

Figure 37   Maintaining the Default Account Assignment

Maintain Settlement Rule: Overview

Order
Actual settlement

Distribution rules

Cat	Settlement Receiver	R
PSG		

Assignment to a Profitability Segment

Entry aids
- Central entry aids
- My entry aids

Characteristic	Char. value	Text
Customer		
Product		
Billing Type		
Sales Order		
Sales Ord. Item		
Order		
Company Code	1000	Buchungskreis 1000
Plant		
Business Area		
Sales Org.		
Distr. Channel		
Division		
WBS Element		
Cost Object		
Profit Center		

Continue Derivation Delete assignment Cancel

Figure 38   Maintaining a Settlement Rule in an Internal Order

Figure 39   Creating a Characteristic Group
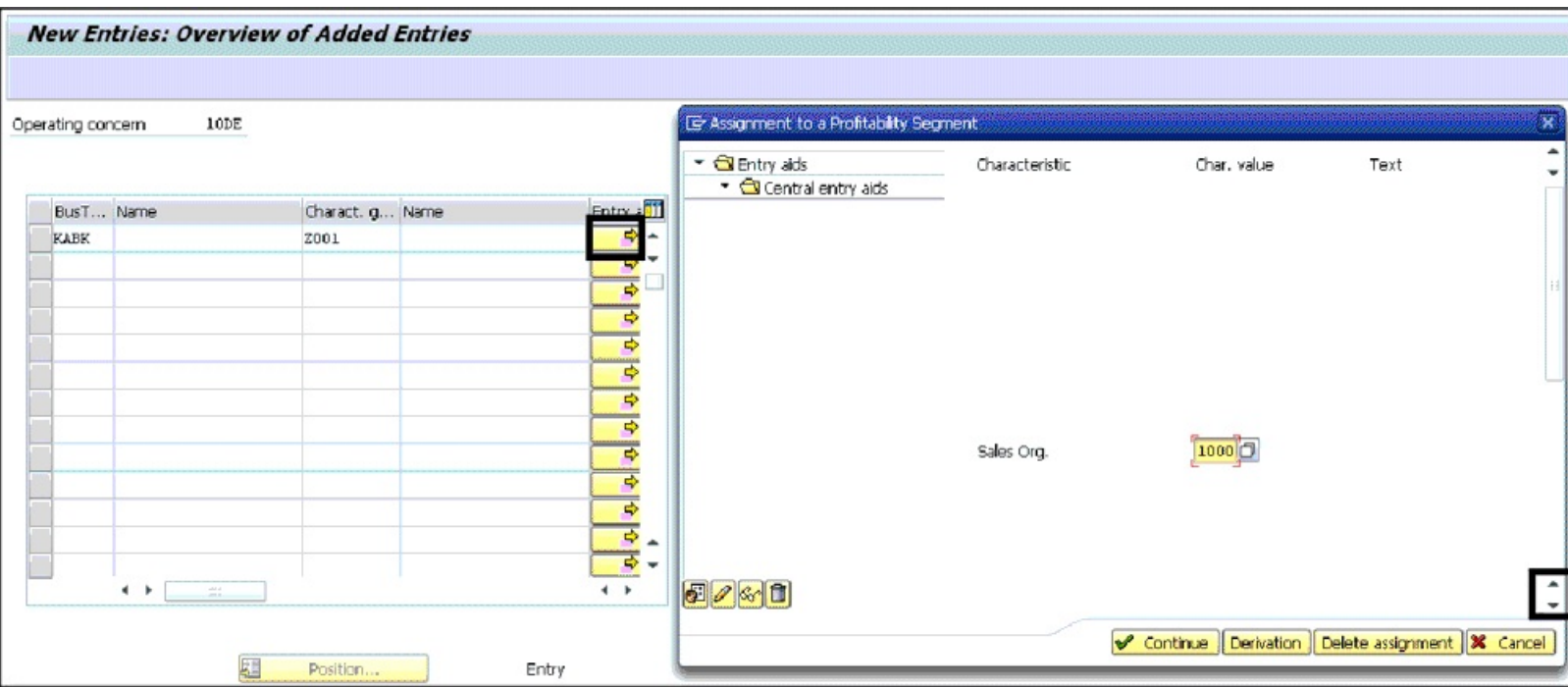
Figure 40 Assigning a Characteristics Group to the Assignment Screen
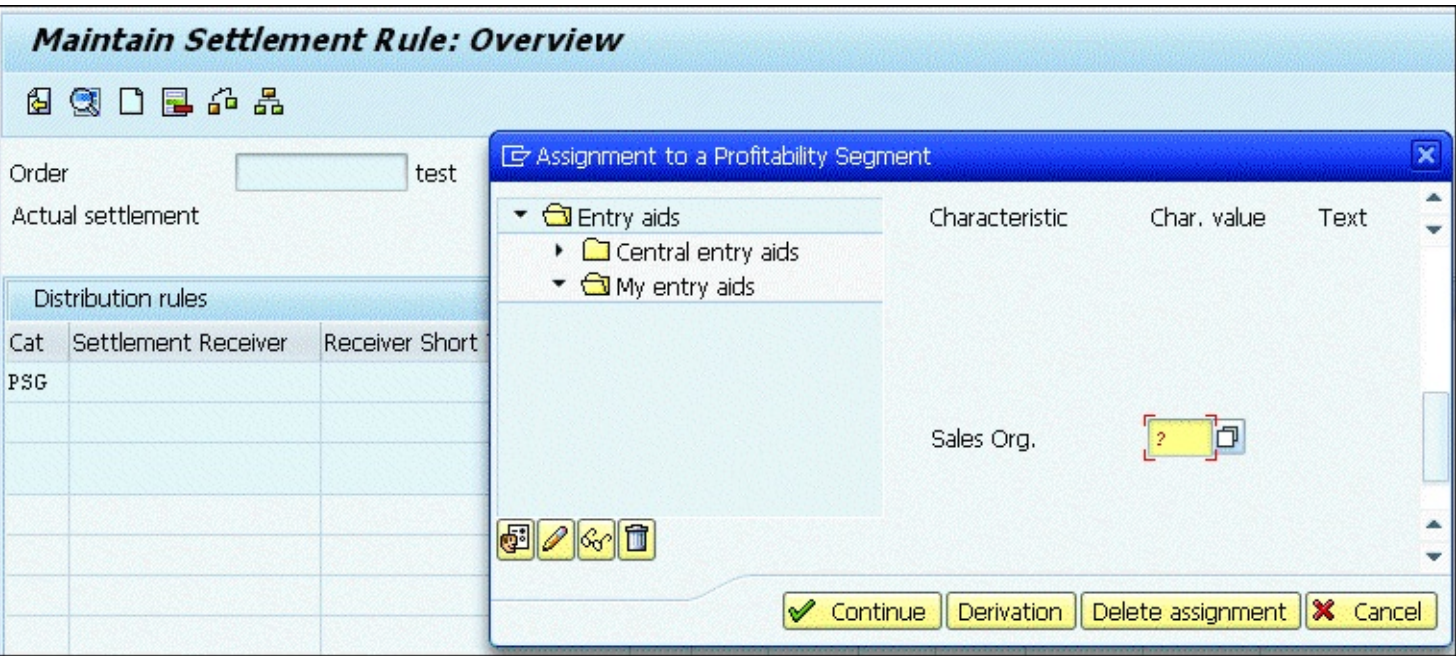
Maintain Settlement Rule: Overview

Order _____ test

Actual settlement

Distribution rules

Cat	Settlement Receiver	Receiver Short
PSG		

Assignment to a Profitability Segment

Entry aids
- Central entry aids
- My entry aids

Characteristic   Char. value   Text

Sales Org.   ?

Continue   Derivation   Delete assignment   Cancel

Figure 41   Maintaining a Settlement Rule with Entry Aid

Figure 42   Creating an Assessment Cycle

CO-PA Create Actual Assessment Cycle: Segment

◀ ▶ 🖫 ⚒ 🖨 Attach segment

Operating concern	10DE	Best Practices	
Cycle	Z001	Assessment Cycle	
Segment Name	Z001	Segment Admin Costs	☐ Lock indicator

| Segment Header | Senders/Receivers | Receiver Tracing Factor | Receiver Weigh... | ◀ ▶ 🗗 |

Assessment CElem	942200	Assessment CO-PA
Fixed value field	VWGK	Admin. Overhead
Val.Fld Var.Cst	VWGK	Admin. Overhead
Alloc.structure	🔍	
PA transfer struct.	🔍	

Sender values

Rule	Posted amounts ▼	
Share in %	100.00	

Receiver tracing factor

Rule	Variable portions ▼	
Val.Fld/Key Fig.	5	Revenue
Scale Neg. Factors	No scaling ▼	

Figure 43   Creating the Segment Header of the Assessment Cycle

CO-PA Create Actual Assessment Cycle: Segment

◀ ▶ 💾 👤 🖨 Attach segment 🔠

Operating concern	1ODE	Best Practices
Cycle	Z001	Assessment Cycle
Segment Name	Z001	Segment Admin Costs	☐ Lock indicator

| Segment Header | Senders/Receivers | Receiver Tracing Factor | Receiver Weigh... | ◀ ▶ 🔲 |

	From	To	Group
Sender			
Cost Center	1101		
Cost Element			ALL
Receiver			
Product			
Procurement			
Company Code	1000		
Batch			
WBS Element			
Billing Type			
Business Area			
Sales Order			
Customer group			
Sales Ord. Item			
Customer			
Bill-to party			
Ship-to party			
Country			

Figure 44   Maintaining Senders/Receivers in the Assessment Cycle

Figure 45   Maintaining the Receiver Tracing Factor

Figure 46 Maintaining the Receiver Weighting Factors

Figure 47 Executing the Actual Assessment Cycle

Figure 48 Creating a Valuation Strategy

Figure 49   Assignment of a Valuation Strategy

Figure 50   Creating Access to Standard Cost Estimates

Figure 51   Maintaining Additional Profitability Analysis Data in the Costing Key

Change View "Costing Key for Material Type": Overview

New Entries

Operating concern   1ODE   Best Practices

PV	RecT.	Plan ver.	Mat.typ	Valid to	C.key 1	C.key 2	C.key 3
02	F		FERT	12/31/9999	001		
03	F	1	FERT	12/31/9999	001	YB1	
03	F	2	FERT	12/31/9999	YB2	001	
04	F	1	FERT	12/31/9999	YB2	YB1	
04	F	2	FERT	12/31/9999	YB2	YB1	

Figure 52   Assigning a Costing Key to a Material Type

Figure 53 Assigning Costing Keys to Any Characteristics

Figure 54 Maintaining Rule Values

Figure 55   Assigning Value Fields to the Cost Component Structure

Figure 56   Creating a Planning Level

Figure 57   Assigning Characteristics to a Planning Level

Figure 58   Defining Variables for a Planning Framework

Figure 59   Creating a Planning Package

**Figure 60** Maintaining Characteristics in the Planning Package

Figure 61   Creating a Parameter Set

Figure 62   Maintaining the Parameter Set

Figure 63   Selecting Excel Integration

Figure 64 Creating Planning Layout Characteristics

**Figure 65**   Creating Planning Layout Value Fields

**Figure 66**   Executing Manual Planning

Figure 67   Creating a Report Form

Report Painter: Create Form

Form   Z100   Form

Lead column	Select element type	n 4
Row 1	● Characteristics	X,XXX
Row 2	○ Value field with characteristics	X,XXX
Row 3	○ Key figure scheme element	X,XXX
Row 4	○ Predefined element	X,XXX

Number format   Drill Down List

Figure 68   Creating a Row

Figure 69 Creating a Variable for the Row

Figure 70   Selecting the Element Type for a Column

Figure 71   Creating a Column

Figure 72   Creating General Data Selection

Figure 73 Creating a Report

Figure 74　Defining Characteristics for a Report

Figure 75 Default Variables for a Report