Controlling Product Costing

(CO-PC)

This case study explains an integrated product costing process in details and thus fosters a thorough understanding of each process step and underlying SAP functionality.

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| Product  S/4HANA 2020  Global Bike  Fiori 3.0  Level  Undergraduate  Graduate  Beginner  Focus  Product Costing  Author  Michael Boldau  Stefan Weidner  Version  4.1  Last Update  June 2022 | MOTIVATION  The data entry requirements in the controlling exercises (CO 1 through CO 3) were minimized because most of the data was stored in the SAP system. This stored data, known as master data, simplifies the processing of business transactions.  In this case study, we create a variant of an existing product in order to calculate associated costs. The cost estimate for this new bike version was initiated by the sales department, which plans on running a sales campaign with a special edition of this bike. After the new material is created in the system, existing bills of materials and routings need to be copied and modified.  After the material has been created the product cost estimate is calculated. |  | PREREQUISITES  Before you use this case study, you should be familiar with navigation in the SAP system.  In order to work successfully through this case study, it is not necessary to have finished the CO exercises. Anyway, it is recommended.  NOTES  This case study uses the Global Bike (GB) data set. |



|  | Process Overview | |
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| **Learning Objective** Understand and perform an integrated product costing process.  **Scenario** In order to perform a product costing process you will take on different roles within the Global Bike company, e.g. production data administrator, cost accountant or chief accountant. Overall, you will work in the Production Planning (PP) and the Controlling (CO) departments.  **Employees involved** Jermain Kumins (Shop Floor Worker 1)  Jamie Shamblin (Controller)  Shuyuan Chen (Head of Accounting) | | **Time** 65 min |
|  | | |
| You start the product costing process by creating a slightly changed version of your top-selling Deluxe Touring bike. As you plan to manufacture and sell a white color in the future, you create new finished goods and necessary raw materials. The bill of material and routing are changed accordingly. Prices are calculated for the new frame and then released. | | |
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|  | Step 1: Copying a finished product | |
| **Task** Copy the product master data of a finished product.  **Short Description** Create a variant of the Deluxe Touring Bike (white) for product costing. In order to do so, you should create a new product while copying the data from your Deluxe Touring Bike (black).  **Name (Position)** Jermain Kumins (Shop Floor Worker 1) | | **Time** 10 min |
|  | |  |
| To create the product master record for a finished product, use the *Manage Product Master Data* app in the tab *Controlling*, the subsection *Product Cost Controlling*, and the role *Shop Floor Worker*. | |  |
|  | | Fiori App |
| Enter as *Product* **DXTR1###** (replace ### with your three-digit number) and choose . | | DXTR1### |
|  | |  |
| Select the line by clicking the checkbox at the beginning of the line and click . In the following popup, in the Plants row on the far right, select the icon . | |  |
|  | |  |
| In the following window, limit the selection to the *plant* **DL00** plant. | | DL00 |
|  | |  |
| To return to the previous menu, press . Then deselect *Distribution Chains* line. | |  |
|  | |  |
| Confirm your entries with . | |  |
| In the Pop-Up *Create Master Data Record* enter as *Product Number* **DXTR4###**. *Product Type, Product Group* and *Base Unit* are already filled. Change the *Description* to **Deluxe Touring Bike (white)**. | |  |
|  | |  |
| Confirm your entries with . You will now see the detailed information of the new product. | |  |
|  | |  |
| In the *Descriptions* section, you change the product description in the language *DE (German)* to **Deluxe Touring Bike (weiß)**. If you speak Russian or French, you can change the descriptions as well or delete them completely if necessary. | |  |
|  | |  |
| Click on  to save your product. | |  |
| It may be that the system will inform you that your new product is a duplicate, which is quite correct. | |  |
|  | |  |
| Click on  again to proceed. You will get a confirmation from the system. | |  |
|  | |  |
| Click on  to return to the SAP Fiori Launchpad. | |  |
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|  | Step 2: Create a copy from a raw material | |
| **Task** copy a new raw material for your bike.  **Short Description** Create a white frame as a new material. It will be used later in the BOM of your new Deluxe Touring Bike (white)  **Name (Position)** Jermain Kumins (Shop Floor Worker 1) | | **Time** 5 min |
|  | |  |
| To create the product master record for a finished product, use the *Manage Product Master Data* app in the tab *Controlling*, the subsection *Product Cost Controlling*, and the role *Shop Floor Worker*. | |  |
|  | | Fiori App |
| Enter as *Product* **TRFR1###** (replace ### with your three-digit number) and click . | | TRFR1### |
|  | |  |
| Select the line by clicking the checkbox at the beginning of the line and click . In the following popup, in the Plants row on the far right, select the icon . | |  |
| In the following window, limit the selection to the *plant* **DL00** plant. | | DL00 |
|  | |  |
| To return to the previous menu, press . | |  |
|  | |  |
| Confirm your entries with . | |  |
| In the Pop-Up *Create Master Data Record* enter as *Product Number* **TRFR4###**. *Product Type, Product Group* and *Base Unit* are already filled. Change the *Description* to **Touring Frame-white**. | | TRFR4###  Touring Frame-white |
|  | |  |
| Confirm your entries with . You will now see the detailed information of the new product. | |  |
|  | |  |
| In the *Descriptions* section, you change the product description in the language *DE (German)* to **Touring Bike Rahmen - weiß**. If you speak Russian or French, you can change the descriptions as well or delete them completely if necessary. | |  |
|  | |  |
| Click on  to save your product. | |  |
| It may be that the system will inform you that your new product is a duplicate, which is quite correct. | |  |
|  | |  |
| Click on  again to proceed. You will get a confirmation from the system. | |  |
|  | |  |
| Click on  to return to the SAP Fiori Launchpad. | |  |
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|  | Step 3: Extend your raw material for calculation | |
| **Task** Enhance your raw material master data.  **Short Description** In order to enable the cost calculation with quantity structure, the previously created master record must be extended  **Name (Position)** Jermain Kumins (Shop Floor Worker 1) | | **Time** 5 min |
|  | |  |
| To extend the material master record for your raw material, use the Change Material app in the tab *Controlling*, the subsection *Product Cost Controlling*, and the role *Shop Floor Worker*. | |  |
|  | | Fiori App |
| Enter as *Material* **TRFR4###** and press . You will enter the view selection. | | TRFR4### |
| Choose view *Costing 1* and confirm with . | | Costing 1 |
|  | |  |
| Enter *Plant* **DL00** and confirm with . | |  |
| Select the Checkboxes *With Qty Structure:* and *Material origin:* | |  |
|  | |  |
| Click  afterwards. | |  |
| You will get the following confirmation: | |  |
|  | |  |
| Click on  to return to the SAP Fiori Launchpad.  Confirm any browser warning messages for unsaved data with . | |  |
|  | |  |

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|  | Step 4: Create Bill of Material | |
| **Task** Create a new BOM.  **Short Description** Create a new BOM for your Deluxe Touring Bike (white) to be used in the product costing process.  **Name (Position)** Jermain Kumins (Shop Floor Worker 1) | | **Time** 10 min |
|  | |  |
| To create a bill of material, use the app *Maintain Bill of Material* from the *Controlling* section, *Product Cost Controlling* subsection, and *Shop Floor Worker* role. | |  |
|  | | Fiori App |
| A *bill of material* contains all the components that go into the manufacture of a product. Bills of material are used in material requirements planning, production, procurement and product costing. Furthermore, alternative BOMs can be used to represent the same product by several BOMs. This is used, for example, to represent different manufacturing processes. | | Bill of Material |
| On the screen *Maintain Bill of Material* enter in the field *Material:* **DXTR1###** and in the field *Plant:* enter **DL00**. | | DXTR1###, DL00  6 |
|  | |  |
| Press  to find the corresponding bill of material to your product | |  |
| Select the entry and choose . | |  |
|  | |  |
| In the *Copy BOM* pop-up, enter **DXTR4###** in the *Material* field and **DL00** in the *Plant* field, and select **6 (Costing)** in the *BOM Usage* field. | | DXTR4###  DL00  6 (Costing) |
|  | |  |
| Click on  to apply your entries. You will get to the new screen *Maintain Bill of Material*. | |  |
|  | |  |
| Change the *Component* in Item Number 20 to your previously created frame **TRFR4###** and press Enter. | |  |
|  | |  |
| Click on . You will get a confirmation from the system. | |  |
|  | |  |
| Click on  to return to the SAP Fiori Launchpad. | |  |
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|  | Step 5: Create Routing | | |
| --- | --- | --- | --- |
| **Task** Create a new routing.  **Short Description** Create a new routing for your Deluxe Touring Bike (white) to be used later in the product costing process.  **Name (Position)** Jermain Kumins (Shop Floor Worker 1) | | | **Time** 5 min |
|  | | |  |
| To create the routing, use the app *Create Routing* in the *Controlling* section, *Product Cost Controlling* subsection, and *Shop Floor Worker* role. | | |  |
|  | | | Fiori App |
| **Note:** Routings contain the steps that are necessary for production and these steps are called operations. Routings include the sequence in which the operations occur, and the work centers at which the operations are to be executed. | | |  |
| * Enter your *material* **DXTR4###** and plant **DL00**. Then, click on . | | | DXTR4###, DL00 |
|  | | |  |
| Make sure that **Routing** is selected on the *Select Type* pop-up. | | | Routing |
| Click on  (*Continue*). On the next screen *Create Using Copy Function: Select Object to be Copied* enter the *Material* **DXTR1###**. As *Plant* **DL00** should already be entered. If not, enter it. | | | DXTR1###  DL00 |
|  | | |  |
| Again, click on  (*Continue*). In the next screen *Create Routing: Header Data Check* set the *Overall Status:* to **4** (Released (General)). | | | 4 |
|  | | |  |
| Press Enter to confirm your changes. The system now shows you in the *Operation Overview*, all operations necessary to assemble your bike. | | | 4 |
|  | | |  |
| Make sure that the modified BOM is already valid by selecting operation *0010* and clicking . If this option is not displayed, you will find it in the pull-down menu under *More ► Allocation*. | | |  |
| Your previously created frame should be listed as *Item Number 20*. | | |  |
|  | | |  |
| Click on . You will get a confirmation from the sytem. | | |  |
|  | | |  |
| Click on  to return to the SAP Fiori Launchpad. You may get a pop-up stating this page contains unsaved data. Click on . | | |  |
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|  | Step 6: Create Cost Estimate | |
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| **Task** Create a cost estimate for your bike.  **Short Description** Create a cost estimate for your white Deluxe Touring Bike and review the cost components.  **Name (Position)** Jamie Shamblin (Controller) | | **Time** 10 min | |
|  | |  | |
| Product costing calculates the cost of goods manufactured and the cost of goods sold per product unit. Products are costed automatically using bills of materials and routings from Production Planning. | |  | |
|  | |  | |
| To estimate costs, use the app *Create Material Cost Estimates* in the *Controlling* section, *Product Cost Controlling* subsection, and *Controller* role. | |  | |
|  | | Fiori App | |
| On the *Create Material Cost Estimate with Quantity Structure* screen, choose your bike **DXTR4###** and plant **DL00**. | | DXTR4###, DL00  1 | |
| On the *Costing Data tab*, choose **Standard Cost Est.** as the Costing Variant via the F4-Help, Costing Version **01** and **1** as the Costing Lot Size.  Compare with the screen shown below. | | Standard Cost Est.  01, | |
|  | |  | |
| Press Enter. If a warning occurs close it and continue by pressing Enter once again. | |  | |
| On the *Dates* tab, change the *Costing Date From* to the **current date** and press Enter to confirm all other date entries. The system now calculates the material and costs based on the bills of material and the routings. | | Current date | |
|  | |  | |
|  | |  | |
|  | |  | |
| Material costs of 926.09 USD are calculated for the Deluxe Touring Bike. | |  | |
|  | |  | |
| To display the exact cost components, press **F5**. Or choose from the Pull-Down-Menu **More** ► **Costs** ► **Display Cost Components** | |  | |
| Then select  in the header area of the lower table and click *Choose Layout*.... | |  | |
|  | |  | |
| Choose the Layout **1SAP02 - Cost Component Groups**. The table will be altered. | |  | |
|  | |  | |
| Click  to save your costing. You will get a confirmation from the system. | |  | |
|  | |  | |
| Click on  to return to the SAP Fiori Launchpad. You may get a pop-up stating this page contains unsaved data. Click on . | |  | |
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|  | Step 7: Mark Price Updates | |
| **Task** Mark the standard cost estimate.  **Short Description** Transfer the cost estimate to the material master record (future Price).  **Name (Position)** Jamie Shamblin (Controller) | | **Time** 5 min |
|  | |  |
| The Price Update function is used to transfer the calculated product cost as a cost estimation to the material master record. The cost is transferred into two steps: marking and release. | |  |
|  | |  |
| To mark prices, use the aps *Release Material Cost Estimates* in the *Controlling* section, *Product Cost Controlling* subsection, and *Controller* role. | |  |
|  | | Fiori App |
| * Enter the **current period** (current month), *company code* **US00**, *plant* **DL00** and your bike **DXTR4###** as *Material*. | | Current period, US00  DL00, DXTR4### |
|  | |  |
| Remove the indicator from the **Test Run** field. Execute the marking by pressing  . | | ~~Test Run~~ |
| The system should display the following message: | |  |
| Click on  to return to the SAP Fiori Launchpad. You may get a pop-up stating this page contains unsaved data. Click on . | |  |
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|  | Step 8: View Prices Changes | |
| **Task** View the planned price.  **Short Description** View the planned price in the material master record of your white Deluxe Touring Bike.  **Name (Position)** Shuyuan Chen (Head of Accounting) | | **Time** 5 min |
|  | |  |
| To view prices, use the app *Manage Product Master Data* in the *Controlling* section, *Product Cost Controlling* subsection, and *Head of Accounting* role. | |  |
|  | | Fiori App |
| Enter *Product* **DXTR4###** in the search field and click on . Click within the row of your only search result to open the product details. | | DXTR4### |
|  | |  |
| Use the pull-down menu to select the *Valuation Areas* section. The screen automatically scrolls to the appropriate section. | | Valuation Areas |
|  | |  |
| Choose the row with Valuation Area *DL00* to see further details. | |  |
|  | |  |
| Select the *Other Prices* tab ► *Marked Standard Cost Estimate*. You will see a line with the details of the previously planned updated material cost estimate. | |  |
|  | |  |
| For comparison, select the tab *Valuation* ► *Current Period*. Here you can see the currently valid standard price. | |  |
|  | |  |
| Click on  to return to the SAP Fiori Launchpad. | |  |
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|  | Step 9: Release Price Updates | |
| **Task** Release the price updates.  **Short Description** Release the price updates.  **Name (Position)** Shuyuan Chen (Head of Accounting) | | **Time** 5 min |
|  | |  |
| To update the price, use the aps *Release Material Cost Estimates* in the *Controlling* section, *Product Cost Controlling* subsection, and *Head of Accounting* role. | |  |
|  | | Fiori App |
| Select  (or More 🡪 Release). Choose the **current period**, *Company Code* **US00**, *Plant* **DL00** and *Material* **DXTR4###**. | | Current period, US00  DL00, DXTR4### |
| Remove the Test Run indicator and release the price by selecting . Compare with the screen below: | | ~~Test Run~~ |
|  | |  |
|  | |  |
| Click on . You should find your material in the *Price Update: Release Standard Price* screen. | |  |
|  | |  |
| Click on  to return to the SAP Fiori Launchpad. You may get a pop-up stating this page contains unsaved data. Click on . | |  |
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|  | Step 10: View Prices | |
| **Task** Review the current prices.  **Short Description** View the current prices.  **Name (Position)** Shuyuan Chen (Head of Accounting) | | **Time** 5 min |
|  | |  |
| To view prices, use the app *Manage Product Master Data* in the *Controlling* section, *Product Cost Controlling* subsection, and *Head of Accounting* role. | |  |
|  | | Fiori App |
| Enter *Product* **DXTR4###** in the search field and click on . Click within the row of your only search result to open the product details. | | DXTR4### |
|  | |  |
| Use the pull-down menu to select the *Valuation Areas* section. The screen automatically scrolls to the appropriate section. | |  |
|  | |  |
| Choose the row with Valuation Area *DL00* to see further details. | |  |
|  | |  |
| Select the *Other Prices* tab ► *Marked Standard Cost Estimate*. You will see that there is no more cost estimation present, since it is already posted. | |  |
|  | |  |
| For comparison, select the tab *Valuation* ► *Current Period*. Here you can see the currently valid standard price. | |  |
|  | |  |
| Click on  to return to the SAP Fiori Launchpad. | |  |

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|  | CO-PC Challenge | |
| **Learning Objective** Understand and perform an integrated product costing process.  **Motivation** After you have successfully worked through the *Product Costing* case study, you should be able to solve the following task on your own.  **Scenario** In the case study you have personalized the routing and the bill of material for the white Deluxe Touring Bike. Some customers have complained because of bad quality of the tires. For this reason, from next month on two touring tires and two touring tubes respectively should be additionally delivered. This will obviously change the product costing. Calculate the new price onwards so that it will be valid from next month on.  **Task Information** As this task is based on the *Product Costing* case study, you can use it as guidance. However, it is recommended that you solve it without any help in order to test your acquired knowledge. | | **Time** 45 min |
|  | |  |
|  | |  |