

Production Planning and Execution (PP) Case Study – Lecturer Notes

This document is intended to help instructors understand the case study process and manage the learning process in and outside the classroom. The main focus lies on prerequisites and common tasks such as testing and trouble-shooting.

Product

SAP S/4HANA 1709
Global Bike

Level

Instructor

Focus

Production Planning and
Execution

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MOTIVATION

Theoretical lectures explain concepts, principles, and theories through reading and discussion. They, therefore, enable students to acquire knowledge and gain theoretical insights. In contrast, case studies allow them to develop their abilities to analyze enterprise problems, learn and develop possible solutions, and make sound decisions.

The main objective of the GBI case studies in general is for students to understand the concept of integration. These descriptive and explanatory case studies will allow students to understand the importance and the advantages of integrating enterprise areas using an S/4HANA system.

The main goal of this document is to help instructors prepare the SAP system for the Production Planning and Execution case study process and to support them trouble-shoot problems that might occur during the course.

Beside technical and didactic prerequisites, the lecturer notes list SAP transactions for testing and correcting student results in the SAP system. In addition, this document describes common problems and explains their reason and solution.

Prerequisites

Note Before using this case study in your classroom please make sure that all technical (month-end closing, user management etc.) and didactic prerequisites are fulfilled. Such prerequisites are briefly pointed out below. Detailed documentation can be displayed at and downloaded from the *Learning Hub of SAP UA* or the *UCC web sites*.

Technical Prerequisites

The Production Planning and Execution case study is based on a standard SAP S/4HANA client with the current GBI dataset. Before processing the case study on your own or with your students all general setting should be checked.

This includes **month-end closing** in Materials Management (transaction **MMPV**) which is documented on the UCC web sites.

Month-end closing in
MM
MMPV

Note With the current version of the GBI client a **year-end closing** is not necessary, because it has already been automated or because it is not needed for the process described in the curriculum material.

Year-end closing

User accounts in the SAP system need to be created or unlocked.

User management

These student user accounts should end with a three-digit numeric number (e.g. LEARN-001, LEARN-002 etc.). This number will be represented by ### in the case study and helps differentiate customer accounts, products etc.

In an SAP S/4HANA GBI client already exist 1000 user accounts from **LEARN-000** to **LEARN-999**. These users need to be unlocked. The initial password for each LEARN-### account is set to **tlestart**.

LEARN-000 to LEARN-999

tlestart

Transaction **ZUSR** was developed in the GB client in order to mass maintain SAP user accounts. For a detailed description of this and SAP standard transactions for user management (**SU01** and **SU10**) please refer to the *lecturer notes „User Management“* (see: current GBI curriculum → chapter 99 – Instructor Tools).

ZUSR

SU01
SU10

All LEARN-### user accounts have been assigned to the role **Z_UCC_GBI_SCC** and have authorizations to use all applicative transactions in the SAP S/4HANA system. The role allows access to all transactions necessary for GBI exercises and case studies. If you need access to system-critical transactions, i.e. for development purposes, you may assign the composite profile **SAP_ALL** to your student accounts.

It is useful for the instructor to have a user account available for testing that has the same authorizations as the student accounts. You may use the predefined instructor account **LEARN-000** for this purpose.

Instructor account
LEARN-000

Didactic Prerequisites

In order to successfully process this case study, students should be familiar with the **navigation** in SAP systems, especially the SAP Easy Access menu, the SAP transaction concept as well as possible documentation and help options. We highly recommend using the *navigation slides* and the *navigation course* (see: current GBI curriculum → chapter 2 – Navigation).

Navigation

In addition, it has been proven beneficial that students have a thorough understanding of the **historic background** and the enterprise structure of the Global Bike concern before they start working on the SAP system. For this purpose we recommend the *case study „Global Bike Inc.“* (see: current GBI curriculum → chapter 3 – GBI) or the *case study „Business Process Analysis I“* (see: current GBI curriculum → chapter 98 – Cross-Module).

historic background

Because the case study is not based on the exercises, it is not necessary to have processed the PP exercises before you start with the case study. However, it is recommended.

In order to function properly this case study needs a **GB client version** that is equal to or higher than the case study version (see cover page). Please check. If you do not know the client version please use the transaction **ZGBIVERSION** within your SAP S/4HANA system or contact your UCC team.

GB client version

ZGBIVERSION

GBI Mobile App

With GBI the App GBI DataViewer was released for all compatible Android and iOS devices. It can be downloaded through Google Play Store and Apple Store. The purpose of this app is to show the possibility of platform-independent support of business processes. Therefore, some task of the case study can optionally substituted by using the GBI DataViewer App.

Please read the document Intro_ERP_Using_GBI_GBI_mobile_app_(beta) for a more detailed description of the app. It can be found in the folder 98 Cross-Module of the GBI release.

Please keep in mind that this app is an additional functionality designed by the UCC Magdeburg and you might encounter a bug. Therefore we kindly ask you to send any feedback or detailed error descriptions to the following address: gbi@ucc.ovgu.de

Global Feedback

Do you have any suggestions or feedback about GBI? Please send it to our new email-address **gbi@ucc.ovgu.de** which is used to gather feedback globally. All emails will be evaluated by the persons responsible for the curriculum bi-weekly. This way your feedback might influence future releases directly.

gbi@ucc.ovgu.de

Please note that any support requests send to this email-address will be ignored. Please keep using the common support channels for your support requests.



Student Assessment

Note With the transactions listed below you can check and correct master and transactional data that your students have created during your course.

Master Data

MM02	Change Material
MM03	Display Material
CA02	Change Routing
CA03	Display Routing

Transactional Data

MC82	Change Plan
MC83	Display Plan
MD63	Display Planned Independent Requirements
MD04	Stock/Requirements List
MC01	Logistics Information Library

GBI Monitoring Tool (beta)

Also we are developing a GBI Monitoring Tool, which is available for the GBI release. Since it is still in development the beta version does not support all case studies yet.

A detailed tutorial for this tool is available in the module *99 Instructor Tools* of the current GBI curriculum. You will find the file `Intro_ERP_Using_GBI_GBI_Monitoring_Tool(beta)` in the corresponding folder.

Please keep in mind that this transaction is an additional functionality designed by the UCC Magdeburg and still in development. Therefore, we kindly ask you to send any feedback or detailed error descriptions to the following address: gbi@ucc.ovgu.de



Result Verification

Note SAP provides several reports for the production process. Two transactions are suitable for verification of case study results. These two transactions can be used as a starting point for error tracking.

Stock Level Each student should produce a certain amount of red bikes (DXTR3###) during the case study.

You can verify all stock changes for a range of materials as described below.

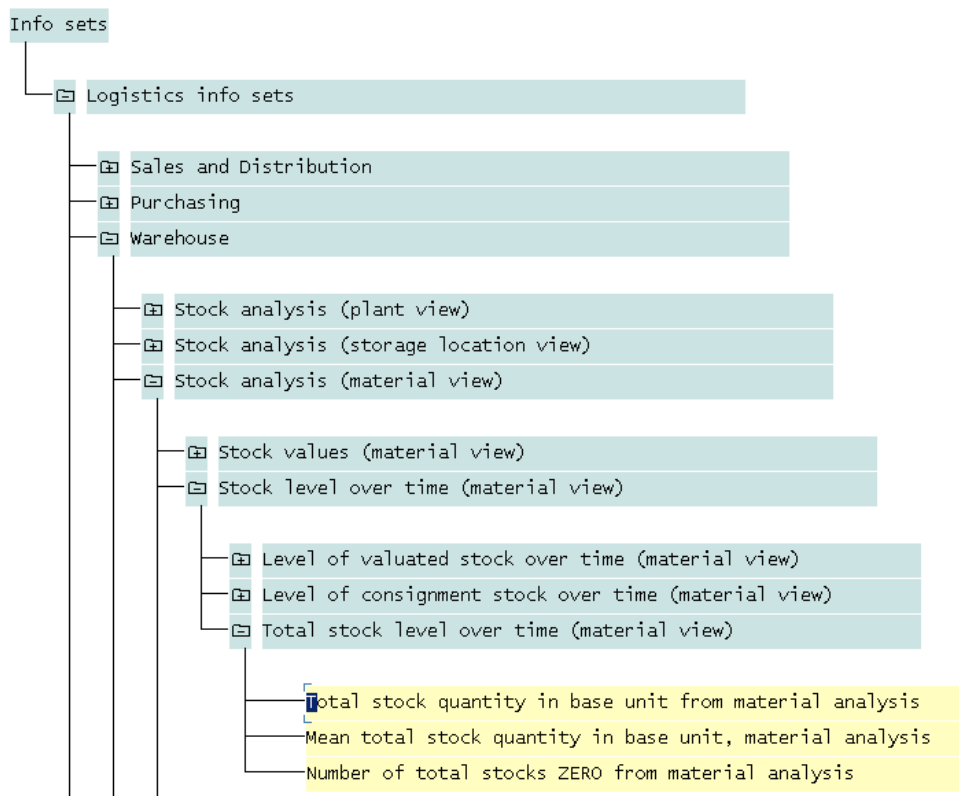
Open transaction **MC01** which will produce the Logistics Information Library screen.

MC01

Navigate through the following path:

Menu path

Info Sets ► Logistics info sets ► Warehouse ► Stock analysis (material view) ► Stock level over time (material view) ► Total stock level over time (material view) ► Total stock quantity in base unit from material analysis



On following screen enter plant **DL00**, Material **DXTR3000** to **DXTR3999** and click on **Execute**. This will produce the Material Analysis Report:

DL00
DXTR3000
DXTR3999

Material	Total stock
Total	645 EA
DXTR3000	184 EA
DXTR3001	150 EA
DXTR3210	161 EA
DXTR3401	150 EA

Note Your Stock level may have different values depending on your historical consumption values.

Materials listed in this report indicate that the goods from the production order (Step 9) were received into inventory.



Problem: Error Message during Transfer to Demand Management

Symptom You receive an error message while transferring planning data to Demand Management.

Reason The master data view MRP 3 of DXTR1### and DXTR2### was not maintained.

Solution Please maintain the necessary data as described below.

Error Message

During transfer of the SOP to Demand Management (case study step 4/5 you receive the following error message:

MC75

Errors occurred while reading data, see the message log.

The detailed error log available from the menu More → Goto → Error log should look similar to the screen depicted below:

No requirements type exists for material DXTR1### in plant DL00.

Solution

Maintain the values for material master view MRP3 of DXTR1### and DXTR2### described on case study step 1.

Rerun the SOP transfer from case study step 5.

Note During the case study only DXTR3### is produced and is not directly affected by the error described above. If you choose to ignore the error and proceed with the case study some screens that show the whole product group will differ from the case study.



Problem: SOP screen does not show all 12 period columns

Symptom Less than 12 periods are available in the SOP planning screen.

Reason The relative size of your SAP window is too small.


Solution Use the steps below to enter the values


Error Message

While creating the SOP less than 12 periods are displayed. Therefore, you can't enter Target days' supply for all necessary periods.

		Un	M 03.2018	M 04.2018
<input type="checkbox"/> Planning Table				
<input type="radio"/> Sales	EA		102	93
<input type="radio"/> Production	EA			
<input type="radio"/> Stock level	EA		-102	-195
<input type="radio"/> Target stock level	EA			
<input type="radio"/> Range of Coverage	***			
<input type="radio"/> Target days' supply	***			

Solution

Use the  icon to navigate through the planning periods.

Alternatively, increase the size of the SAP window and click on .

Choose not to save planning values and then click on

Active version



Solution: PP Challenge

Learning Objective Understand and perform a manufacturing process cycle.

Motivation After you have successfully worked through the *Production Planning and Execution* case study you should be able to solve the following challenge on your own.


Scenario In this challenge you should create sales and operations plan (SOP) for the product group (product family) Mountainbikes. Take into consideration that the materials of the product group have to be assigned to the strategy group. Therefore, enter manually the following sales figures:

Period	Sales (volume)
Current month + 2	150
Current month + 3	175
Current month + 4	200
Current month + 5	85
Current month + 6	90
Current month + 7	115

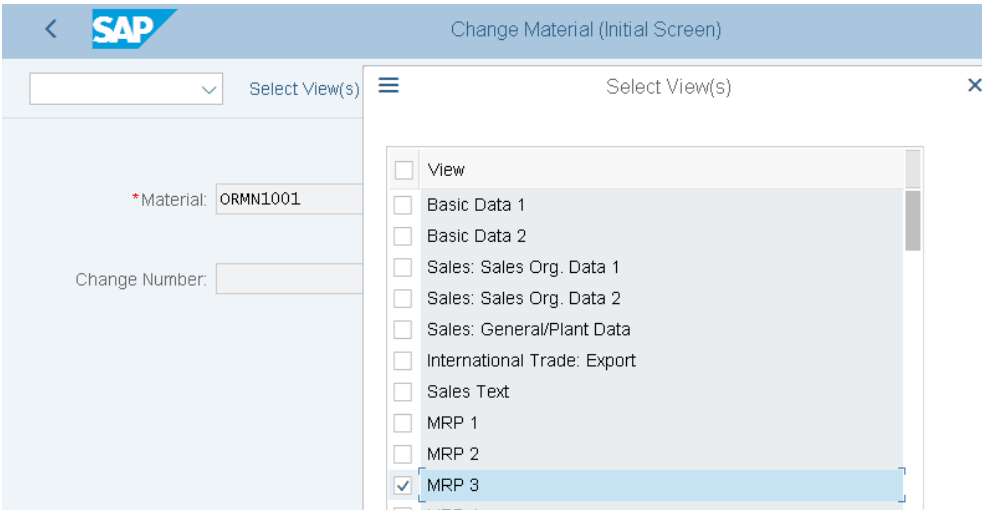
In addition, you must post the correct goods for Material ORMN1### in the storage location in order to be able to produce and settle costs afterwards.

Task Information Since this task is based on the *Production Planning and Execution* 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.

Change Material Master Record

Change your material with transaction **MM02**. When your material number (**ORMN1###**) is entered in the Material field press Enter. On the following screen, please select **MRP 3**. Then, press Enter or click on .

MM02
ORMN1###
MRP 3



In the following popup enter as Plant **DL00** (Dallas). Then enter its Finished Goods Stor. Location (**FG00**). Press Enter or click on .

DL00
FG00

Organizational Levels

Organizational levels

*Plant: DL00

Stor. location: FG00

☐ Org. levels/profiles only on request

Select View(s) Default Setting

In the *MRP 3* tab, enter Strategy group **40** (Planning with final assembly), Consumption mode **1** (Backward consumption only) and Bwd consumption per. **30**.

40
1
30

MRP 2 MRP 3 MRP 4 Advanced Planning Work scheduling Plant data / stor. 1 Plant data / stor. 2

Material: ORMN1001

*Descr.: Men's Off Road Bike

Plant: DL00 Plant Dallas

Forecast Requirements

Period Indicator M Fiscal Year Variant Splitting indicator:

Planning

Strategy Group: 40

Consumption mode: 1 Bwd consumption per.: 30

Fwd consumption per.: Mixed MRP:

Planning material: Planning plant:

Plng conv. factor: Planning matl BUnit:

Click on **Save** to save your entries for the Men's Off Road Bike. Repeat the same procedure for the Women's Off Road Bike. (**ORWN1###**).

ORWN1###

Create Sales and Operation Plan (SOP)

In the transaction **MC82** create a sales and operation plan for the product group Off Road Bicycles. (**PG-ORBK###**)

MC82
PG-ORBK###

Make sure that Product group **PG-ORBK###** and Plant **DL00** are entered.

PG-ORBK###
DL00

Then select **Active version**.

In the *Change Rough-Cut Plan* screen, enter manually the values for the sales, starting in two months from today's date.

Period	Sales (amount)
current month + 2	150
current month + 3	175
current month + 4	200

current month + 5	85
current month + 6	90
current month + 7	115

As Target day's supply enter **5** for each forecasted period (a total of 6 months).

5

In the menu bar, select:

Edit ► Create productn plan ► Synchronous to sales

Menu bar

Note the change in the Production and in the Stock level lines. The production plan is created to match the sales forecast.

SOP: plan individual product group								
<input type="checkbox"/> Planning Table	Un	M 07.2018	M 08.2018	M 09.2018	M 10.2018	M 11.2018	M 12.2018	
<input type="radio"/> Sales	EA	150	175	200	85	90	115	
<input type="radio"/> Production	EA	150	175	200	85	90	115	
<input type="radio"/> Stock level	EA							
<input type="radio"/> Target stock level	EA							
<input type="radio"/> Range of Coverage	***							
<input type="radio"/> Target days' supply	***	5	5	5	5	5	5	

Now select in the menu bar

Edit ► Create productn plan ► Target day's supply

Menu bar

Note the impact on the production plan and stock levels. Production levels are generated to match the sales plus produce enough to put into stock to meet the target days of supply specifications

Save by clicking on .

Transfer SOP to Demand Management

Start transaction **MC75**. Follow the instructions as described in the case study, just change the product group to **PG-ORBK###**.

MC75
PG-ORBK###

Run MPS with MRP

In the transaction **MD41** start the Master Production Scheduling with your material **ORMN1###**. Further follow the steps as described in the case study.

MD41
ORMN1###

Convert Planned Order into Production Order

In the transaction **MD04** proceed as described in the case study, just change your material to **ORMN1###**.

MD04
ORMN1###

Receive Goods in Inventory

In transaction **MIGO** you post the goods received of your required raw materials in stock.

MIGO

Enter **today** as Document and Posting Date, Movement Type **561** (Receipt per initial entry of stock balances into unr. –use). Then press Enter.

today
561


In the *Enter Other Goods Receipts: New Item* screen, you can't use the same materials as in the case study, because you now plan for material ORMN1####.

To find out the required materials for ORMN1#### you need to take a look at the BOM via transaction **CS03**. Transfer the required materials to the *Enter Goods Receipts: New item* screen. For the Off Road Aluminum Wheel Assembly (ORWA1####) enter **SF00** (Semi-Fin. Goods) and for all the other materials **RM00** (Raw-Materials) as Storage Location. Enter **500** as Quantity for each material.

CS03

SF00
RM00

500

Save your goods receipt and record the material document number. Then, click on the exit icon  to return to the SAP Easy Access screen.

Issue Goods to Production Order

In transaction **MIGO** advance as described in the case study.

MIGO

Confirm Production Completion

In the transaction **CO15** confirm the completion of your production, therefore advance as described in the case study.

CO15

Receive Goods from Production Order

In the transaction **MIGO** advance as described in the case study as well.

MIGO

Settle Costs of Production Order

In the transaction **KO88** you can settle the costs of the production order as described in the case study.

KO88

