

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 ERP
G.B.I.
Release 6.07

Level

Instructor

Focus

Production Planning and Execution

Author

Stefan Weidner
Michael Boldau

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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 ERP 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 *SAP University Alliances Community (UAC) portal* or the *UCC web sites*.

Technical Prerequisites

The Production Planning and Execution case study is based on a standard SAP ERP 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. GBI-001, GBI-002 etc.). This number will be represented by ### in the case study and helps differentiate customer accounts, products etc.

In an SAP ERP GBI client already exist 1000 user accounts from **GBI-000** to **GBI-999**. These users need to be unlocked. The initial password for each GBI-### account is set to **gbiinit**.

GBI-000 to GBI-999

gbiinit

Transaction **ZUSR** was developed in the GBI 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 „SAP User Management“* (see → UAC → current GBI curriculum → chapter 3 – Introduction to Global Bike).

ZUSR

SU01
SU10

All GBI-### user accounts have been assigned to the role **Z_GBI_SCC_US** and have authorizations to use all applicative transactions in the SAP ERP 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.

Guidelines on how to maintain roles and profiles can be found in the *lecturer notes „SAP User Management“* (see → UAC → current GBI curriculum → chapter 3 – Introduction to Global Bike).

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 **GBI-000** for this purpose.

Instructor account
GBI-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 → UAC → 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 → UAC → current GBI curriculum → chapter 3 – Introduction to Global Bike) or the *case study „Business Process Analysis 1“* (see → UAC → current GBI curriculum → chapter 3 – Introduction to Global Bike).

Company 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 **GBI 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 ERP system or contact your UCC team.

GBI client version

GBI Mobile App

With GBI 2.40 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 03 GBI of the GBI 2.40 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.

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



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.

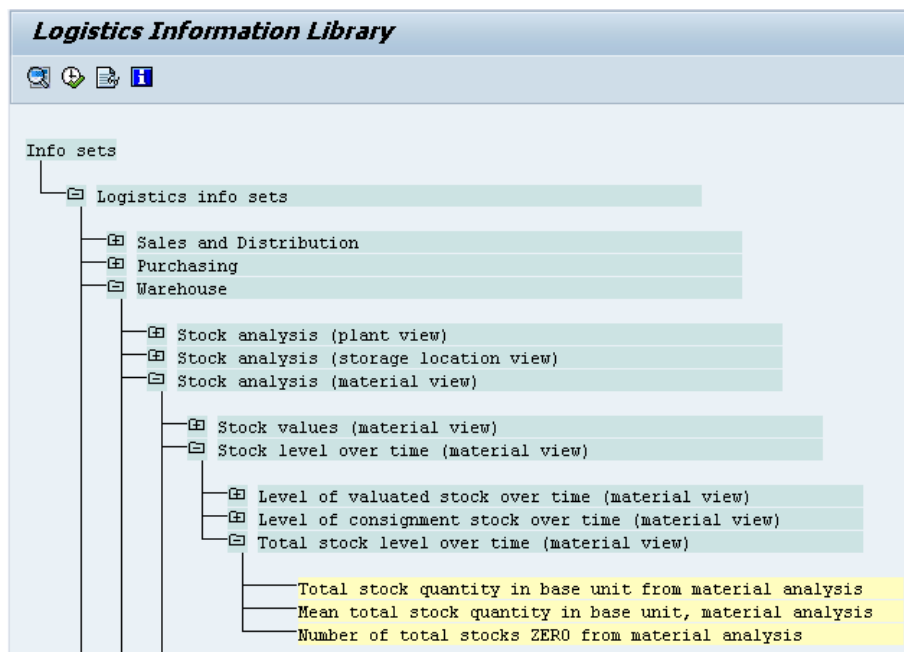
You can verify all stock changes for a range of materials as described below.


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

MC01

Navigate through the following path:

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 Analysis (INVC0): Basic List

Switch drilldown...

No. of Material: 2

Material	Total stock
Total	68 EA
DXTR3000	28 EA
DXTR3500	40 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 (see case study p36) 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 page 14f.) you receive the following error message:

MC75

Errors occurred while reading data, see the message log

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

MT	Area	Msg.No.	Message Text	Material	Plant	RqTy	DV	ReqPlanNo.
E	6P	492	No requirements type exists for material DXTR1100 1 in plant DL00 2	DXTR1100	DL00			AG
E	6P	492	No requirements type exists for material DXTR2100 1 in plant DL00 2	DXTR2100	DL00			AG

Solution

Maintain the values for material master view MRP3 of DXTR1### and DXTR2### described on case study page 3f.

Rerun the SOP transfer from case study page 16f.

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.

Change Rough-Cut Plan				
Characteristic 				
Product group	PG-DXTR200	200 Product Group Deluxe		
Plant	DL00			
Version	A00	Active version		
SOP: plan individual product group				
Planning table	Un	M 01/2014	M 02/2014	
Sales	EA	102	93	
Production	EA			
Stock level	EA	-102	-195	
Target stock level	EA			
Days' supply	***			
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 .



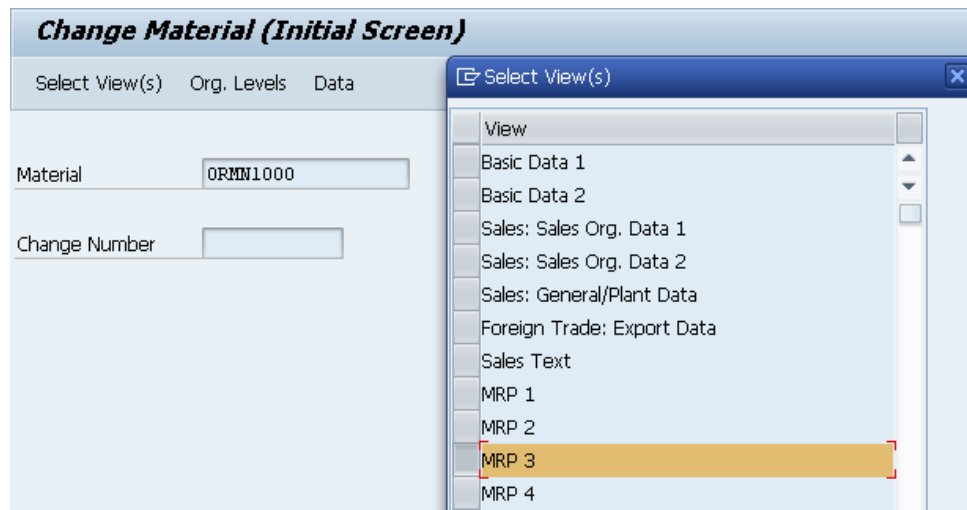
Solution: PP Challenge


Learning Objective Understand and perform a manufacturing process cycle.

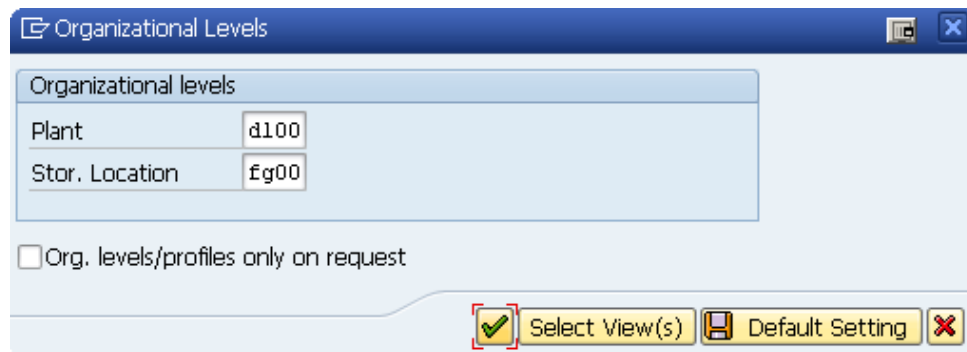
Change Material Master Record


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

MM02
ORMN1###
MRP 3



Then, press Enter or click on . The following screen will appear.



Find and select the GBI manufacturing facility in Dallas (**DL00**). Then enter its Finished Goods Stor. Location (**FG00**). Press Enter or click on .

DL00
FG00

In the MRP 3 view, 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 Work scheduling Plant data / stor. 1 Plant...

Material Men's Off Road Bike

Plant Plant Dallas

Forecast Requirements

Period Indicator Fiscal Year Variant Splitting indicator

Planning

Strategy group

Consumption mode Bwd consumption per.

Fwd consumption per.

Mixed MRP

Planning material

Planning plant

Plng conv. factor

Planning matl BUnit

Click on to save your entries for the Men's Off Road Bike. Repeat the same procedure for the Women's Off Road Bike. (**ORWM1###**).

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

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

PG-ORBK###
DL00

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 system menu, select:

Edit ► Create product plan ► Synchronous to sales

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									
Planning Table	Un	M 05.2015	M 06.2015	M 07.2015	M 08.2015	M 09.2015	M 10.2015	M 11.2015	M 12.2015
Sales	EA			150	175	200	85	90	115
Production	EA			150	175	200	85	90	115
Stock level	EA								
Target stock level	EA								
Days' supply	***								
Target days' supply	***			5	5	5	5	5	5

Now select in the system menu:

Edit ► Create product plan ► Target day's supply

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 **MB1C** you post the goods received of your required raw materials in stock.

MB1C

Enter **today** as Document and Posting Date, Movement Type **561** (Receipt per initial entry of stock balances into unr. –use). Plant **DL00**, and leave Storage Location blank. Then, press Enter or click on .

today
561
DL00

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

Item	Material	Quantity	UnE	SLoc	Batch	Re	Plnt
1	ORWA1000	500		SF00			DL00
2	OFFR1000	500		RM00			DL00
3	DGAM1000	500		RM00			DL00
4	ORSK1000	500		RM00			DL00
5	ORHB1000	500		RM00			DL00
6	PEDL1000	500		RM00			DL00
7	CHAN1000	500		RM00			DL00
8	BRKT1000	500		RM00			DL00
9	WDOC1000	500		RM00			DL00
10	PCKG1000	500		RM00			DL00

Save your goods receipt with  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 **MB1A** advance as described in the case study.

MB1A

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 **MB31** advance as described in the case study as well.

MB31

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

