

Like Modeling and Life Cycle Planning – A Case Study



Applies to:

APO Demand Planning. For more information, visit the [Product Lifecycle Management homepage](#)

Summary

This article is intended for all the Planners involved in the SAP APO Demand Planning module. The article essentially describes the Like Modeling and Life Cycle Planning concepts and configuration with the help of a self created Case Study.

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Author Bio



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Case Study

The Client wants to introduce a new type of television “TV_52” in their APAC region for Indian customers for a time period of 1 year starting from August 2010 only in RETAIL outlets KMART and WMART. They already have an existing product “TV_29” in the same market.

Business Solution

TV_52 is a NEW product, and hence it has no Historical Data. So, ideally we cannot generate Forecast for any product without History.

In such cases, we copy the History of a similar kind of product/products to the new one.

Here we'll copy the History of TV_29 (existing product), and then we'll generate the forecast for TV_52. We can also have the history copied from more than one product, as per the business requirement. This functionality of APO DP is known as **LIKE MODELING**.

But, TV_52, being a new product can't have the exact demand pattern as TV_29. As TV_29 is an established brand, it'll have much more demand than TV_52. In every product's life there are 4 phases – launch, growth, maturity, and discontinuity. So, as soon as TV_52 is launched its demand will grow only gradually, and will then hit the maturity phase.

After certain time period, this product needs to be discontinued from the market (owing to various factors), this is the time it'll hit the discontinuation stage.

This behavior can be mapped to APO DP functionality. The Forecasting Model (Univariate for e.g.) will generate the forecast as usual based on the copied history data. But we limit this forecast figure using certain factors, and increase it gradually, till the product reaches Maturity Phase. This functionality is called **PHASE IN**. In the maturity phase the usual Univariate Forecast figures are taken. As we reach the Discontinuation phase, we again apply certain factor to the Univariate forecast figure and reduce it gradually. This functionality is called **PHASE OUT**.

So, basically to achieve the client's requirement, we need to do the following things –

- 1) Manually create Characteristic Value Combinations for TV_52
- 2) Like Modeling with TV_29
- 3) Assign Phase-IN profile
- 4) Assign Phase-OUT profile
- 5) Check the data in the Planning Book

Configuration

Step 1: Manually Create CVCs

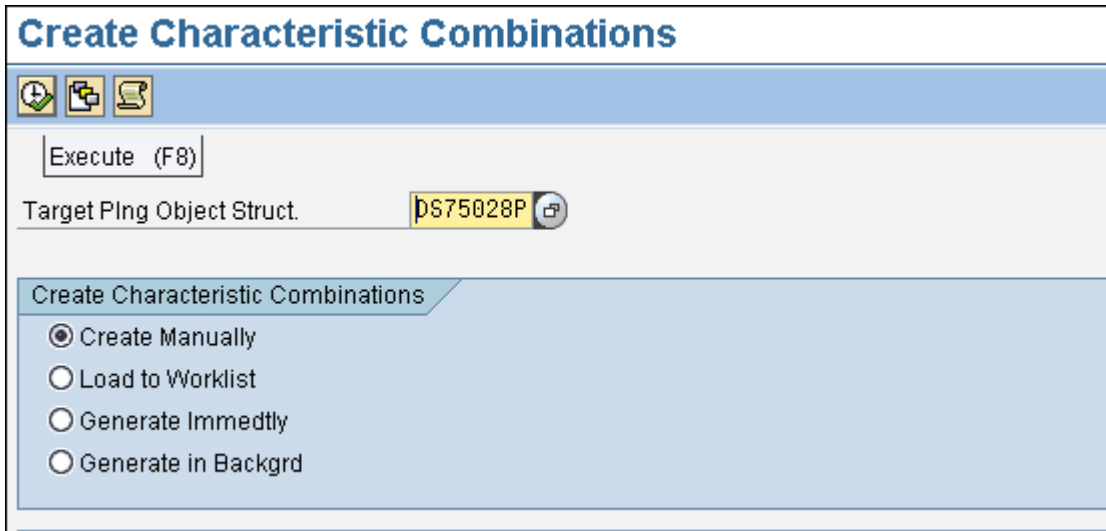
Characteristics to be considered here are –

- a) Country – INDIA
- b) Customer – KMART, WMART
- c) Customer Group – RETAIL
- d) Product Group – TELEVISION
- e) Product – TV_52
- f) Region - APAC

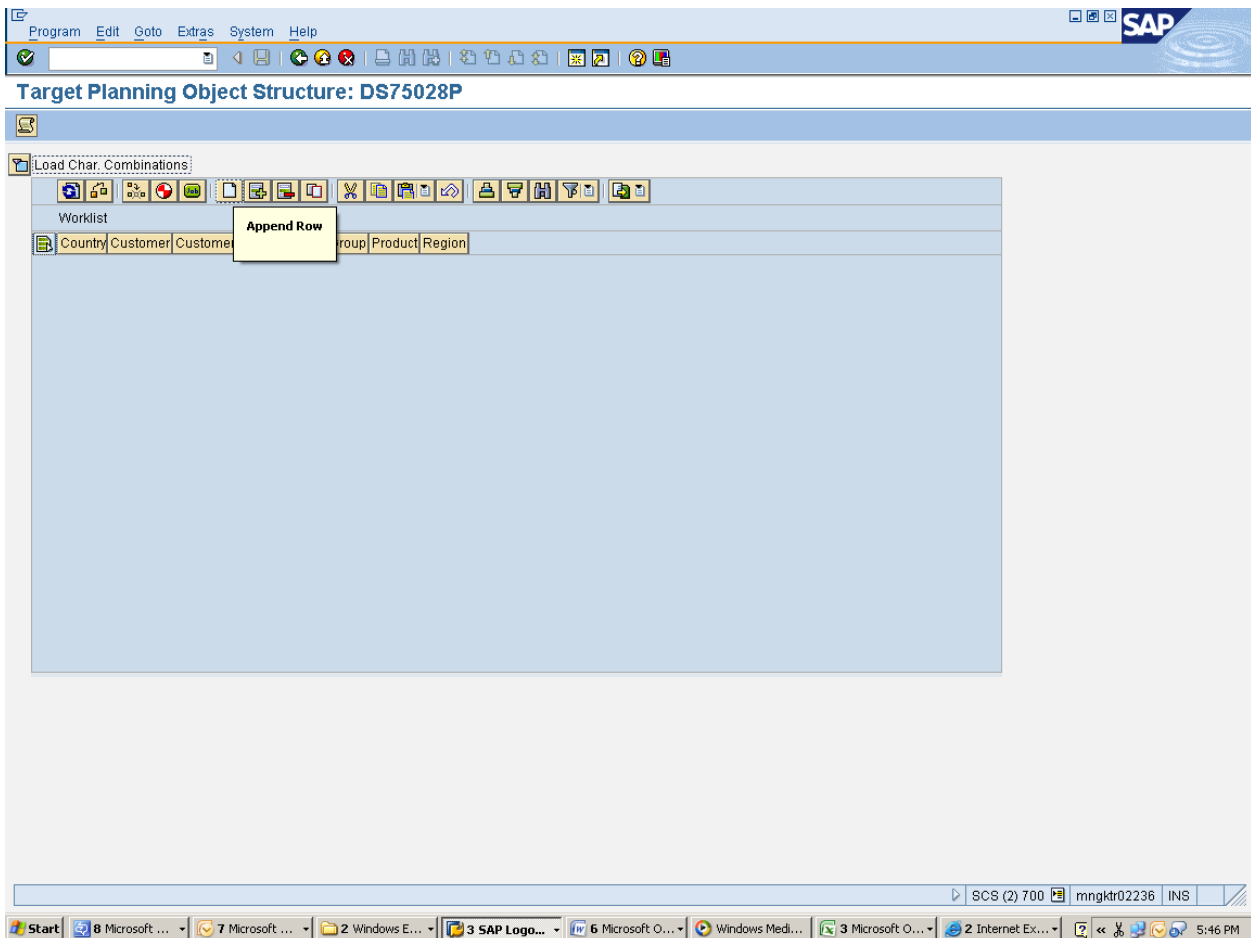
The screenshot displays the SAP S&DP Administration interface. The main window shows a list of Master Planning Object Structures (MPOS) with columns for Name, Description, and Status. A context menu is open over the 'Char. Combinations' entry, with the 'Create' option highlighted. The taskbar at the bottom shows the SAP logo and several open applications.

Name	Description	Status
9ASNPBAS	SNP Basis	Green
9ASNPBA	SNP Basis für Lieferpläne	Green
9ATPVS0B	TPVS: TDL-Kontingente	Green
ABHL_POS	ABHL_POS	Green
AGR_MPOS	AGR_MPOS	Green
APPLE_MP	MPOS for Apple	Green
ATP_001	Product Allocation	Green
BUN_MPOS	Bunga MPOS	Green
BUN_MPS2	Bunge MPOS	Green
BUN_NTK	BUN_NTK	Green
BU_POS	BU_POS	Green
CPG_POS	MPOS for CPG	Green
DP1_MPOS	DP1_MPOS	Green
DPDPSGN1	DPD General MPOS 1	Green
DPDPSGN3	MPOS for test JK	Green
DPPPOS	DPP MPOS	Green
DPTRGMPO	Master Planning Object Structure f...	Green
DS1	Debarshi's MPOS	Green
DS1	DS1 Master Planning Object Struc...	Green
EPO	EI- Master Planning Object Struc...	Green
FMC	MPOS for FMCG	Green
FPLI	FPL MPOS	Green
G1	G1_MPOS	Green
GAT	test for gatp run	Green
GAT	test pos for gatp	Green
GK	MPOS for GK	Green
IDC		
JMF		
KPC		
KRA		
KRA		

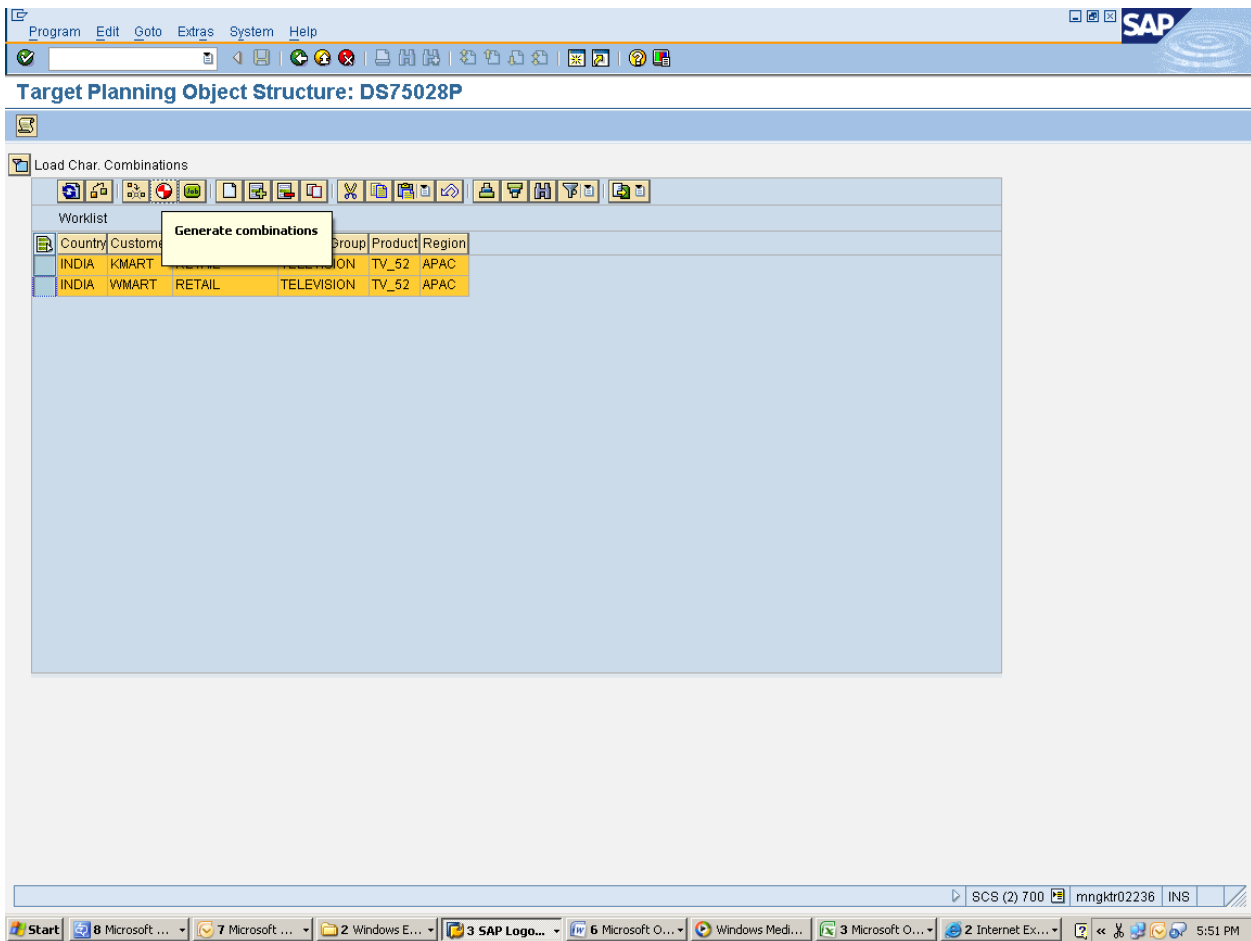
Choose – “Create Manually” and then Execute (F8)



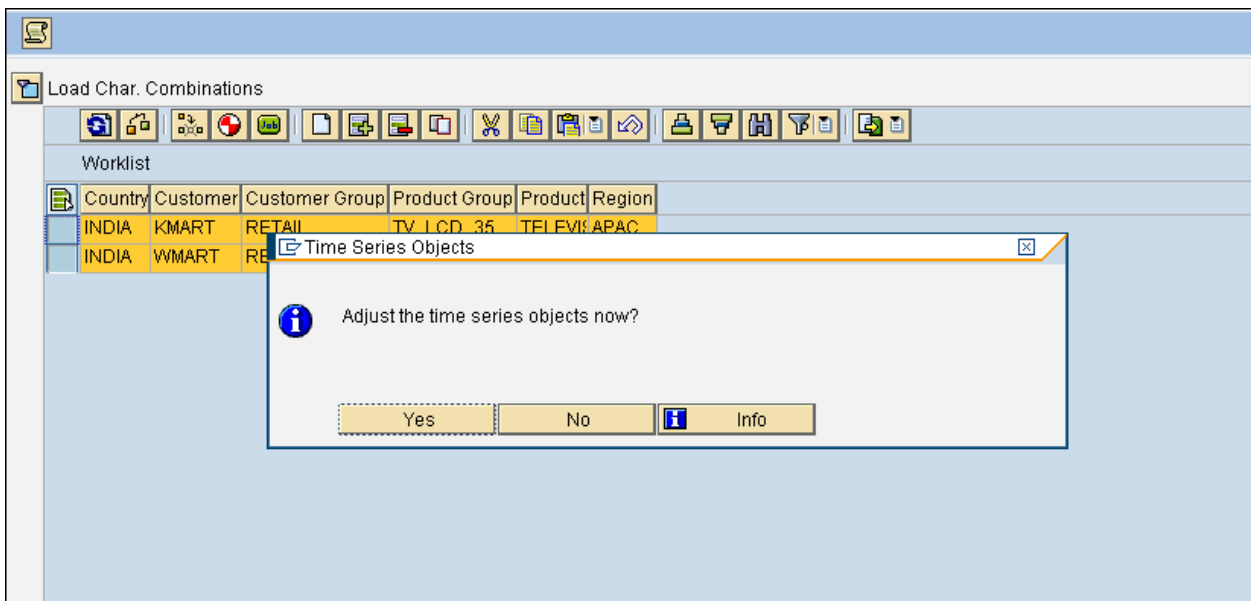
We get the below screen, where we have to “Append Row”



We type in the required CVCs and then click on “Generate Combinations”



System will ask for the below screen, we click on “Yes”



We have added a new Product in INDIA – TV_52

We can view that product in the Planning Book. We can see TV_52 in the list of Products.

Planning Book: [Live] DS PLANNING BOOK / DS MONTHLY DATAVIEW

Country: [Country] Total: [Total] Product: [Product] Total: [Total]

Selected Objects

Product	Product	Product	Product	Product
REF_165	REF_165	REF_165	REF_165	REF_165
REF_190	REF_190	REF_190	REF_190	REF_190
TV_21	TV_21	TV_21	TV_21	TV_21
TV_29	TV_29	TV_29	TV_29	TV_29
TV_52	TV_52	TV_52	TV_52	TV_52

Selection profile

- INF75028
 - ALL_SKU

Planning Book/Data View | Description

- DS_PB1
 - DS_MONTHLY_DS MONTHLY DATAVIEW
 - E-COLL01
 - E-PB1
 - E-PB2
 - E-CAL-FORM

Macros

- For data view: DS_MONTHLY_DV1
 - Directly Execut. Macros

UNIVARI	Unit	M 08.2010	M 09.2010	M 10.2010	M 11.2010	M 12.2010	M 01.2011	M 02.2011	M 03.2011	M 04.2011
Shipment	EA									
Baseline Fo...	EA	26,556	26,556	26,556	26,556	26,556	26,556	26,556	26,556	26,556
Sales Forec...	EA	26,147	26,147	26,149	26,148	26,147	26,149	26,148	26,148	26,148
Mktg Forecast	EA	26,147	26,147	26,149	26,148	26,147	26,149	26,148	26,148	26,148
Consensus ...	EA	26,147	26,147	26,149	26,148	26,147	26,149	26,148	26,148	26,148
Promotion	EA									
Final Foreca...	EA									

If in the Header – we select just TV_52, we see no data; this is because TV_52 is a new product being introduced, and hence it has no History data and hence no Forecast figure.

We have to do a Like Modeling of TV_52 based on the existing product (TV_29), and then we'll adjust the Phase in/Phase out profiles of this new TV_52 product.

Planning Book: [Live] DS PLANNING BOOK / DS MONTHLY DATAVIEW

Country: [Country] Total: [Total] Product: [Product] TV_52

Selected Objects

Product	Product	Product	Product	Product
REF_165	REF_165	REF_165	REF_165	REF_165
REF_190	REF_190	REF_190	REF_190	REF_190
TV_21	TV_21	TV_21	TV_21	TV_21
TV_29	TV_29	TV_29	TV_29	TV_29
TV_52	TV_52	TV_52	TV_52	TV_52

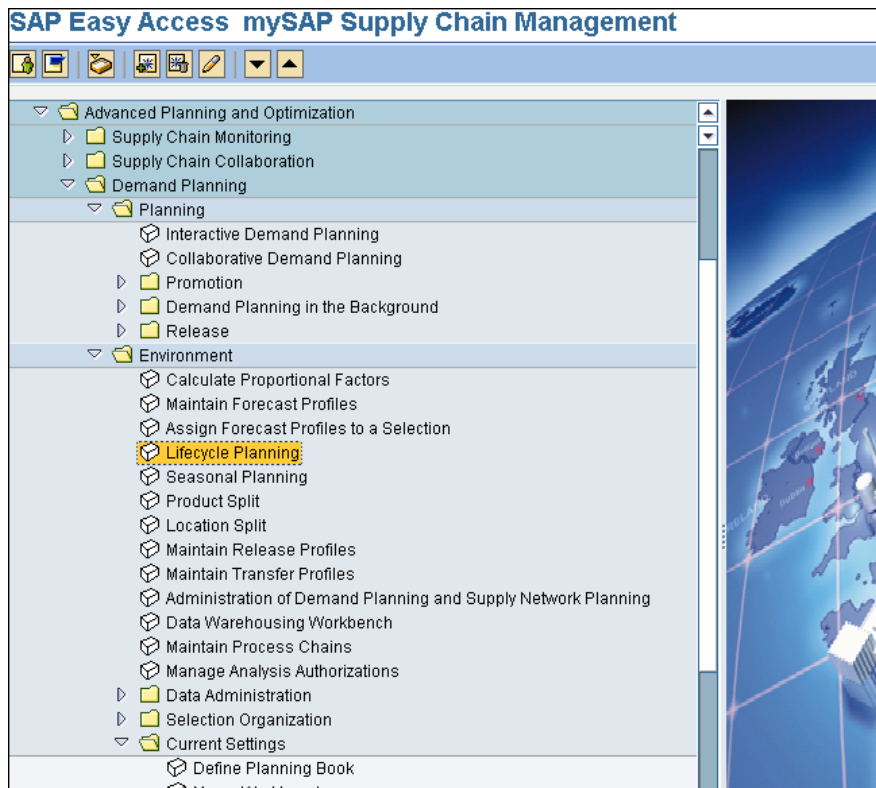
Selection profile

- INF75028
 - ALL_SKU

UNIVARI	Unit	M 08.2010	M 09.2010	M 10.2010	M 11.2010	M 12.2010	M 01.2011	M 02.2011	M 03.2011	M 04.2011
Shipment	EA									
Baseline Fo...	EA									
Sales Forec...	EA									
Mktg Forecast	EA									
Consensus ...	EA									
Promotion	EA									
Final Foreca...	EA									

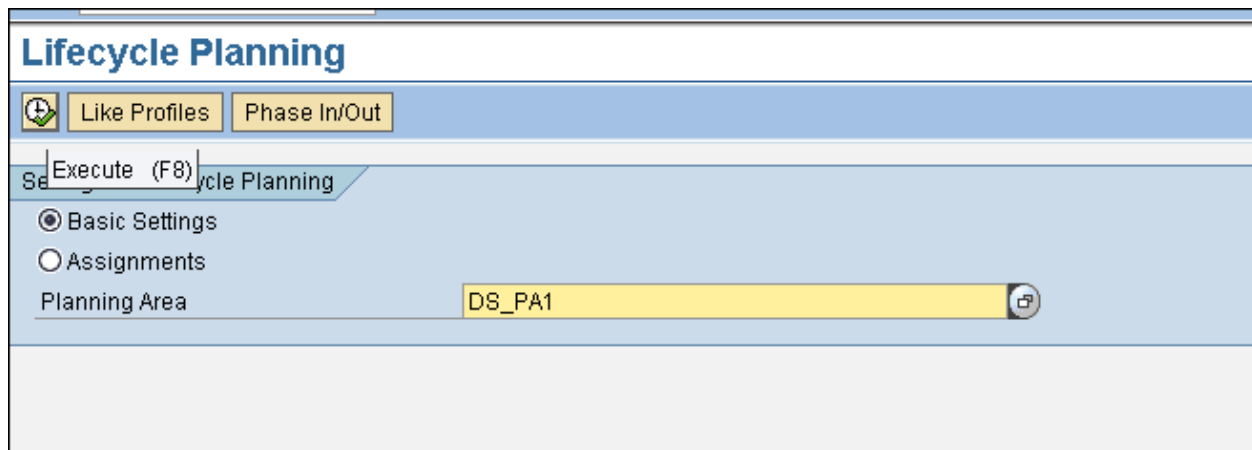
Step 2: Like Modeling

We have to go to the Life Cycle Planning screen



First we have to do the Basic Settings. In the Basic setting we define the Level at which we want to do the Life Cycle Planning. We want to do the Planning in the SKU and Country level.

We choose “Basic Settings”, the Planning Area (DS_PA1) and hit the ‘Execute’ button



We go to the below screen –

We want to do the Planning in the SKU and Country level. We put the relevant Key Figures and “Adopt” them.

Define Basic Settings for Life Cycle

PI Adopt (F8)

Planning Area: DS_PA1

Characteristic Selection

Status: Basic settings have already been saved

Aggregated Lifecycle Planning with Like Profiles

Aggregated Lifecycle Planning with Phase-In/Out Profiles

Characteristics

1	ZPRODSKU1	Product
2	ZCOUNTRY1	Country
3		
4		
5		
6		

Click on 'Like Profiles'

Lifecycle Planning

Like Profiles | Phase In/Out

Settings for Like Profiles (Ctrl+F1)

Basic Settings

Assignments

Planning Area: DS_PA1

Here we have to select the relevant 'Characteristic' i.e., Product SKU (ZPRODSKU1)

Give a Like Profile name (DS_LP1) and give its Description

Then we have to select the Model whose history we need to copy and in what percentage.

Here, we are selecting TV_29, and copying 100% of its history. We select the Action 'S' (A and S available, read more in help.sap.com on this).

Define Like Profile

Adopt values (F8) DS_PA1
 Char. ZPRODSKU1 Product

Like Profile DS_LP1
 Description DS Like Profile 1

Like Profile Definition

Ref. Values	Action	%	Weighting Profile
TV_29	S	100	

Number: 0

Prfl.	Char.

We have to 'SAVE this

Define Like Profile

Planning Area DS_PA1
 Char. ZPRODSKU1 Product

Like Profile DS_LP1
 Description DS LIKE PROFILE 1

Like Profile Definition

Save Ref. Values	Action	%	Weighting Profile
TV_29	S	100	

Number: 1

Prfl.	Char.
DS_LP1	ZPRODSKU1

Step 3: Phase – IN profile

Click on “Phase In/Out”

The screenshot shows the 'Lifecycle Planning' window. At the top, there are buttons for 'Like Profiles' and 'Phase In/Out'. Below this, the title is 'Settings for Lifecycle Planning Phase In/Out (Ctrl+F2)'. There are two radio buttons: 'Basic Settings' (selected) and 'Assignments'. Below the radio buttons is a 'Planning Area' dropdown menu with 'DS_PA1' selected.

Phase – IN

Product is Planned to be launched by Aug 2010.

We have to create a Phase In Profile name – “Time Series”

“Start date” will be from the Month business wants to launch the Product. Here it’s Aug 2010.

“End Date” will be the Period till which Business wants the Product to be in the GROWTH phase. Here it’s till 5 months including the launch month. So the end date for the growth phase is Dec 2010.

We have selected the Period as M – monthly.

We have to check the “Before start date, apply constant factor”.

We have to assign the percentage values for each period of growth in “Maintain Values”.

After these settings we have to “Adopt” them.

The screenshot shows the 'Time Series Maintenance' window. At the top, there are buttons for 'Adopt (F8)', 'Save', and 'Refresh'. Below this, the title is 'Time Series Maintenance'. There are several fields: 'Planning Area: DS_PA1', 'Time Series: DS_PHIN1', 'Description: DS PHASE IN PROFILE', 'Start Date: 01.08.2010', 'End Date: 31.12.2010', and 'Period: M'. There are two checkboxes: 'Before start date, apply constant factor:' (checked) and 'After end date, apply constant factor:' (unchecked). Below these fields is a table titled 'Maintain Values' with columns 'Period' and 'Vals.'. The table contains five rows of data, with the last row highlighted in yellow.

	Period	Vals.
1	M 08.2010	10,00
2	M 09.2010	20,00
3	M 10.2010	40,00
4	M 11.2010	80,00
5	M 12.2010	100,00

At the bottom of the window, there is a status bar that says 'Data saved successfully'.

Step 4: Phase – OUT profile

We have to click on “Phase In/Out” button, and we go to the below screen.

Phase – OUT

The Product is planned to be phased out by the end of 2011.

We have to create a Phase OUT Profile name – “Time Series”

“Start date” will be from the Month Business wants the Maturity phase of the Product to end. Here it's Aug 2011.

“End Date” will be the Period by which Business wants the Product to be in the out of the market. So the end date for the growth phase is Dec 2011.

We have selected the Period as M – monthly.

We have to check the “After end date, apply constant factor”.

We have to assign the percentage values for each period of DISCONTINUITY in “Maintain Values”.

After these settings we have to “Adopt” them.

Time Series Maintenance

Adopt (F8)

➤ Planning Area:

➤ Time Series:

Description:

Start Date: End Date: Period:

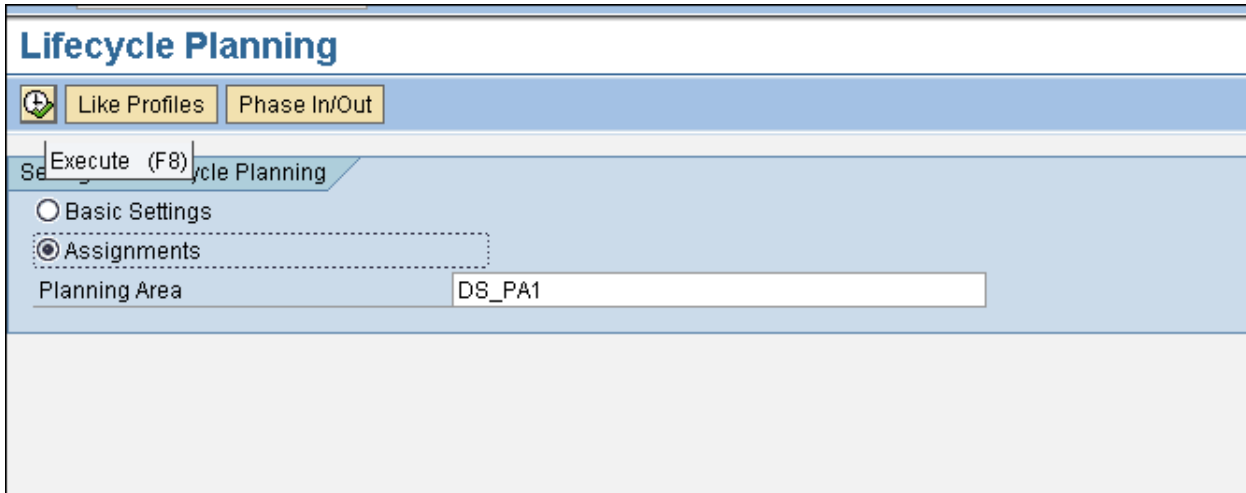
Before start date, apply constant factor: %

After end date, apply constant factor: %

Maintain Values

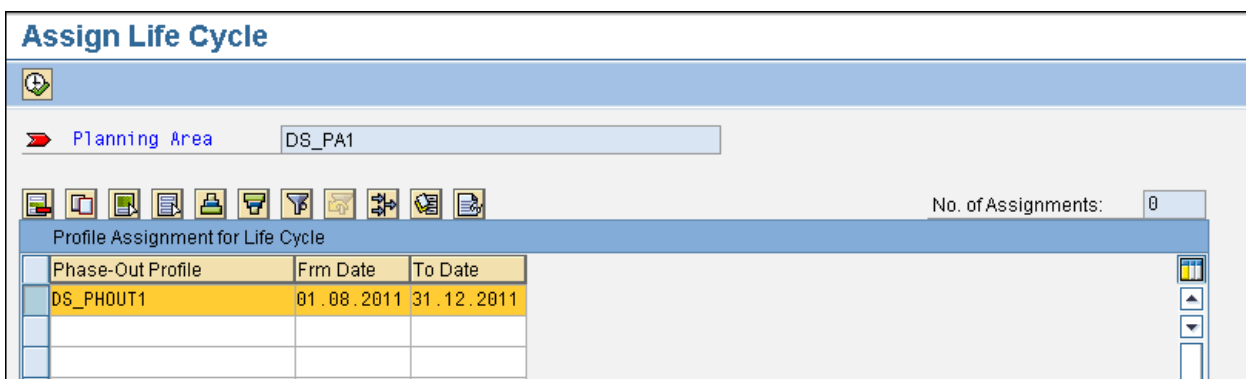
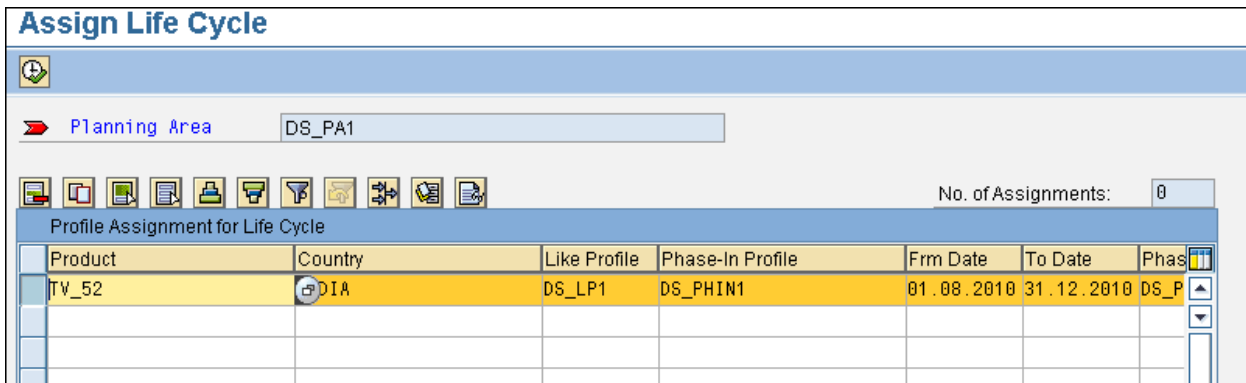
	Period	Vals.	
1	M 08.2011	100,00	▲
2	M 09.2011	80,00	▼
3	M 10.2011	40,00	
4	M 11.2011	20,00	
5	M 12.2011	10,00	

Now we have to assign the respective Phase-In/Phase-Out Profile to the newly introduced SKU (TV_52)
 Select “Assignments” and click on “Execute”



We go to the below screen –

Here we do the assignments of Like Profile, Phase IN profile and Phase OUT profile



We adopt this

Assign Life Cycle

Adopt (F8) | g Area | DS_PA1

No. of Assignments: 0

Profile Assignment for Life Cycle

Product	Country	Like Profile	Phase-In Profile	Frm Date	To Date	Phas
TV_52	INDIA	DS_LP1	DS_PHIN1	01.08.2010	31.12.2010	DS_P

Step 5: Now we go and check in the Planning Book

We use the Shuffler to select the desired output -

Planning Book: [Live] DS PLANNING BOOK / DS MONTHLY DATAVIEW

INDIA | Product | TV_52

M 09.2010 | M 10.2010 | M 11.2010 | M 12.2010

Object Selection

Show Product

that meet the following conditions

APO Planning Version 000

Product TV_52

Country INDIA

We select the “Univariate Forecast” button and load data and forecast into the Planning Book.

The screenshot shows the SAP Planning Book interface. At the top, it says "Planning Book: [Live] DS PLANNING BOOK / DS MONTHLY DATAVI". Below this is a toolbar with various icons. The main area is divided into two panes. The left pane, titled "Selected Objects", contains a table with five columns labeled "Product" and five rows, each containing "TV_52". Below this is a "Selection profile" section with a tree view showing "INF75028" and "ALL_SKU". The right pane shows a table with columns for "Country" (set to "INDIA"), "Prod", and a "UNIVARI..." forecast type. The table lists various forecast types and their units:

Forecast Type	Unit	M 08.2010	M 09.2010	M 10.2010
Shipment	EA			
Baseline Fo...	EA			
Sales Forec...	EA			
Mktg Forecast	EA			
Consensus ...	EA			
Promotion	EA			
Final Foreca...	EA			

In interactive planning book values for history KF can be seen. These numbers are the borrowed history numbers from TV29.

The screenshot shows the "Forecast in Interactive Planning: Change Mode" window. It displays a detailed data table for the "Univariate Forecast with Master Profile DS_MP1 Planner: INF75028 Time: 17:07". The table has columns for months from M 04.2010 to M 03.2011. The rows include various forecast types and their values:

	M 04.2010	M 05.2010	M 06.2010	M 07.2010	M 08.2010	M 09.2010	M 10.2010	M 11.2010	M 12.2010	M 01.2011	M 02.2011	M 03.2011
Baseline Forecast					34	128	256	512	640	640	640	
Shipment	1365	1333	767	683								
Corrected History	647	647	767	683								
Ex-Post Forecast												
Corrected Forecast					64	128	256	512	640	640	640	
Seasonal					1,00	1,00	1,00	1,00	1,00	1,00	1,00	
Trend												
Basic Value					639,88	639,88	639,88	639,88	639,88	639,88	639,88	

Below the table, there are tabs for "Profile", "Model", "Horizons", "Parameters", "Forecast Errors", "Settings", "Messages", and "Time Series". The "Forecast Profiles" section is expanded, showing:

- Master Forecast Prfl.: DS_MP1
- Univariate Profile: DS_UV1
- MLR Profile: [empty]
- Composite Forecast Prof.: [empty]

There are also buttons for "Master Profil." and "Master Profil." at the bottom.

Click on messages and we can see which like profile, phase-in and phase-out profile is used.

Forecast in Interactive Planning; Change Mode

Univariate Forecast with Master Profile DS_MP1 Planner: INF75028 Time: 17:08

	M 04.2010	M 05.2010	M 06.2010	M 07.2010	M 08.2010	M 09.2010	M 10.2010	M 11.2010	M 12.2010	M 01.2011	M 02.2011	M 03.2011
Baseline Forecast					64	128	256		512	640	640	640
Shipment	1365	1333	767	683								
Corrected History	647	647	767	683								
Ex-Post Forecast					64	128	256		512	640	640	640
Corrected Forecast												
Seasonal					1,00	1,00	1,00		1,00	1,00	1,00	1,00
Trend												
Basic Value					639,88	639,88	639,88		639,88	639,88	639,88	639,88

Forecast Messages

The following LIKE profile was used: DS_LP1
 The following phase-out profile was used: DS_PHOUT1
 Outlier correction performed; 2 outlier(s) corrected
 Required Time for Forecast in Seconds: 0,909
 The following phase-in profile was used: DS_PHIN1
 The following phase-out profile was used: DS_PHOUT1

Output in the Planning Book (Initial phase, Maturity Phase and Decline Phase) – check the values.

Planning Book: [Live] DS PLANNING BOOK / DS MONTHLY DATAVIEW

Country: INDIA | Product: TV_52

UNIVARI	Unit	M 08.2010	M 09.2010	M 10.2010	M 11.2010	M 12.2010	M 01.2011	M 02.2011	M 03.2011	M 04.2011
Shipment	EA									
Baseline Fo...	EA	64	128	256	512	640	640	640	640	640
Sales Forec...	EA									
Mktg Forecast	EA									
Consensus ...	EA									
Promotion	EA									
Final Foreca...	EA									

Planning Book: [Live] DS PLANNING BOOK / DS MONTHLY DATAVIEW

Country: INDIA | Product: TV_52

UNIVARI	Unit	M 04.2011	M 05.2011	M 06.2011	M 07.2011	M 08.2011	M 09.2011	M 10.2011	M 11.2011	M 12.2011
Shipment	EA									
Baseline Fo...	EA	640	640	640	640	640	512	256	128	
Sales Forec...	EA									
Mktg Forecast	EA									
Consensus ...	EA									
Promotion	EA									
Final Foreca...	EA									

The values in the Planning Book for the Product SKU TV_52 is increasing gradually at first, then attaining a constant maximum value, and after a certain period decreasing gradually.

Related Content

http://help.sap.com/saphelp_apo/helpdata/en/02/7650fd353611d398290000e8a49608/content.htm

www.sap.sdn.com

<http://www.infosys.com/supply-chain/white-papers/Documents/APO-demand-planning.pdf>

. For more information, visit the [Product Lifecycle Management homepage](#)

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