

Range Allignmnet Process



Process Owner : Suman Chakraborty
 Execution Team : Merchandising
 Application (IT) :
 Updated as on : 15-Apr-19
 Version : v1.0
 Created by : Amit Pendkalkar
 Reviewed by : Sanjay Gupta
 Approved by : Suman Chakraborty

Process Objective :

- 1) To enable optimal ranging guidelines in stores by setting Range targets
- 2) To ensure timely Ranging/Deranging of SKUs at stores as per Range targets
- 3) To establish a maker-checker approach for exception ranging

Process Name	Lead Measure	Lag Measure
Key Process		
Range Target Setting Process	Range effectiveness	Range Target
Ranging/Deranging Process	Range Gap Availability, Excess Ranging	Saturation and Starvation
Exception Ranging Process	Range Gap Availability, SLM NDQ share	Saturation, Starvation and Incerased sale

Note : Lead Measures are "Predictive – Provide early signs", Lag Measures are "Outcome". Kindly update measures for both Key & Sub-processes along with "measure defination".

Process Index

Range Alignment Process, and ranging process

Sub Process 1 Range Target Setting Process.....	3
Sub Process 2 Ranging/Deranging Process.....	12
Sub Process 3 Exception Ranging Process.....	12
Training, Benchmark (Process/Measure), Reviews.....	13

Range Target Setting Process	
Merchandiser	Calculates the Range targets for Stores by Price-bands. The detailed process is stated below
Buyer	Based on the Market potential and available space, Buying Team provides their inputs for range target setting of assortment groups (at the Store/category level)
IT	<p>Uploads Range Target in SAP and ensures data flow to Symphony</p> <p>Trouble-shoots any error in upload and resolves the same</p>

SOP- Range target calculation

1. This is a step by step guide for calculating the range target for each assortment group in each store.
2. Definitions:
 - A. Assortment group- a group of SKUs that are all in the same price band and are all from the same class/category (i.e. all Digital Cameras that are priced under 6,000 Rupees will be called- Digital cameras_pb:1)
 - B. Display group- Number of Assortment groups that have a dedicated display area together (i.e. for Digital Cameras there are 10 assortment groups, all of them together is the display group).
3. This guide should be read together with the 3 template files- “inventory raw data”, “sales raw data” and “final file”.
4. How to read the file:
 - Cells marked in red – usually a VLOOKUP indication. You should delete the rest of the column, drag the formula, and copy paste as values.
 - Cells marked in yellow – input fields.

“Inventory Raw Data”

Day	Site	Article No	Article Description	Stock Quantity	Class Description	Status	MOP	DISPLAY GROUP	1	2	3	4	5	6	7	PB	month	Traffic/Sales Group
14-09-2017	A142	198711	Lenovo Tab3-7X ZA130196IN 4G 17cm	3	7 INCH TABLETS	ZA	8999	Tablets	7000	14000	20000	30000	40000	50000	99999999	2	3	G9
13-07-2017	A002	197643	Lenovo Yoga Tab3 New Blk 20cm	1	7 INCH TABLETS	ZA	17499	Tablets	7000	14000	20000	30000	40000	50000	99999999	3	1	G10

“Sales Raw Data”

Class Description	Cat Desc	Article Description	Site	Article No	Qty	Gross Value	Sales value per unit	Month	Display Group	1	2	3	4	5	Price band	Month	Traffic/Sales Group
AC Split	Air Conditioners	VOLTAS S/AC 1.5T 183SY 3S	A079	188838	1	33,240.50	33,241	Jul-17	AC Split	33000	40000	50000	70000	99999999	2	1	G1
AC Split	Air Conditioners	O'GENERAL S/AC 1.5T ASGA18FTTA 5S	A079	189223	1	55,959.30	55,959	Jul-17	AC Split	33000	40000	50000	70000	99999999	4	1	G1

“Final file”

Display Group	Traffic/ Sales				Average		Effective Threshold	Current Range	Top Threshold	Bottom Threshold	Potential Range	Potential Range with Cap	Max Change	Min Change	need to change	Final Potential Range	Range Count
	Group	PB	Store	Range	ER	ER%											
Tablets	G1	1	A002	1.666667	0	0%	7%	1	22%	7%	0.0	1.2	2.0	1.2	1	1.2	
Tablets	G1	1	A021	2	0	0%	7%	2	22%	7%	0.0	1.4	2.4	1.4	1	1.4	

Needed data:

5. Before starting the process, make sure that you have the following data:
 - A. Inventory data for last 3 months- a snapshot of the inventory in the last Friday of each month. Exclude 0 inventory and Dell’s skus, include D&Q (“inventory raw data”).
 - B. Sales data for the last 3 months (“sales raw data”).
 - C. Assortment group definition.
 - D. Min/Max range per store / display group. (indication for proper display)
 - E. Min range per store / assortment group. (indication for proper choices for the client)

Updating Inventory & Sales Files

6. Preparing the Inventory and Sales raw data for the process:
 - A. Copy the inventory and sales data into the inventory raw data and sales raw data files respectively to the “Yellow” columns.
 - B. Columns I to AG are built in formulas. You will find the formula in the first row coloured in red. Drag this formula to the end of the table to apply it. Then, copy paste as values. See sub-bullets for columns explanations:
 - a. “Display Group” – pulled from 'Class VS Display group' sheet
 - b. Calculate PB for each row:
 - i. There are 10 columns representing the 10 possible PBs. Each column should have the Max price of the respective PB. The Max can be pulled using an “index” formula
 - ii. The next 10 column are a calculation to indicate the PB. The formula is built in and should not be changed. You will see values of 0/1/9. The “1” represents the correct PB.
 - iii. The next column is “PB”. It will pull the correct PB according to the prior 10 columns.
 - c. “month” indication
 - d. “Traffic Group” indication
7. Pivot tables:
 - a. In both file go to the pivot table sheet
 - b. “select data” and verify that the whole data is captured
 - c. Refresh the data
 - d. Make sure your final pivot has this structure:

A. For inventory:

Drag fields between areas below:

Report Filter

Day

Column Labels

Row Labels

Traffic Group

Store

Assortment Group

SKU

month

Σ Values

Max of PB

☐ Defer Layout Update

Update

B. For sales:

Drag fields between areas below:

Report Filter

Column Labels

Σ Values

Row Labels

traffic group

Site

Display Group

Article No

month

Σ Values

Max of pb

Sum of Sales Qty.

☐ Defer Layout Update

Update

- Only in sales- Filter for only positive sum of sales.

Step 1 – Potential Calculation

8. Copy the sales pivot (as values) with the “positive sum of sales” (columns A-H) into table 1 in the “sales sheet” of the “final file”.
9. Copy the inventory pivot (as values) (columns A-F) into table A in the “inventory sheet” of the “final file”.
10. Go into the “sales” sheet, and:
 - A. In table 2 (pivot table):
 - a. Options → “select data” and verify that the whole data (copied cells in table1) is captured.
 - b. Refresh the data.
 - c. Make sure your final pivot has this structure:

The screenshot shows the 'PivotTable Options' task pane in Microsoft Excel. The title bar says 'Drag fields between areas below:'. The pane is divided into four main sections: 'Report Filter', 'Column Labels', 'Row Labels', and 'Values'.
- 'Report Filter': Contains a dropdown menu with 'Positive sum of sales' selected.
- 'Column Labels': An empty box for column labels.
- 'Row Labels': Contains four stacked dropdown menus with the following values: 'Display Group', 'traffic group', 'month', and 'Max of pb'.
- 'Values': Contains a dropdown menu with 'Average of Sum of Sales Qty.' selected.
At the bottom left, there is a checkbox labeled 'Defer Layout Update' which is currently unchecked. At the bottom right, there is an 'Update' button.

- Positive sum sales- this filter exclude skus which their sum of sales were negative.
- B. Columns U and V are built in formulas. You will find the formula in the first row coloured in red. Clear all rows except the first row and Drag the formula to the end of the table to apply it. Then, copy paste as values. See sub-bullets for columns explanations:

- a. Column u- connecting: Display group, month, PB and traffic group). Will be used in the next step to move the average sum of sales to table 1.
 - b. Column V- a copy of column T.
- C. Now, go back to table 1. Columns I to L are built in formulas. You will find the formula in the first row coloured in red. Clear all rows except the first row and Drag the formula to the end of the table to apply it. Then, copy paste as values. See sub-bullets for columns explanations:
 - a. Column I- connecting between: site, month and article. Will be used in next steps in order to move column k (“effective limit”) into the inventory sheet.
 - b. Column J- connecting between: Display group, month, PB, traffic group). Will be used to Vlookup the effective limit data from table 2.
 - c. Column K “effective limit”- the average monthly units sold for an assortment group in certain traffic group of stores.
 - d. Column L “is effective”- checks whether sum of sales for sku/month/assortment is bigger than that month average for the same group.
- 11. Go to “inventory” sheet, and:
 - A. Columns G to I are built in formulas. You will find the formula in the first row colored in red. Clear all rows except the first row and Drag the formula to the end of the table to apply it. Then, copy paste as values. See sub-bullets for columns explanations:
 - a. Column G- connecting between: store, month and sku. Will be used for the vlookup formula in column H.
 - b. Column H “is effective”- get the effective/not effective data for each sku/store/month from column L in “sales” sheet.
 - c. Column I “is effective1”- convert the data from column H to include only numbers: 1 for effective sku and 0 for non- effective sku.
 - B. In table B (pivot table):
 - a. Options → “select data” and verify that the whole data (table A) is captured.
 - b. Refresh the data.
 - c. Make sure your final pivot has this structure:

Drag fields between areas below:

<p> Report Filter</p> <div></div>	<p> Column Labels</p> <div> <div>month</div> <div>is effective1</div> </div>
<p> Row Labels</p> <div> <div>Display Group</div> <div>Max of PB</div> <div>Traffic Group</div> <div>Store</div> </div>	<p> Values</p> <div> <div>Count of SKU</div> </div>

☐ Defer Layout Update Update

- C. Columns U to AB are built in formulas. You will find the formula in the first row coloured in red. Clear all rows except the first row and Drag the formula to the end of the table to apply it. Then, copy paste as values. See sub-bullets for columns explanations:
- Column U to W ER% for each month- $(\text{effective skus})/(\text{effective}+\text{non effective skus})$.
 - Column X "Average ER%"-average of columns U to W.
 - Column Y "rang/e"- the average range in the store from the 3 months.
 - Column Z "ER"- $\text{ER\%} * \text{range}$.
 - Column AA- connecting between: pb group,pb,traffic group
 - Column AB "effective threshold"- calculate the average ER% of an assortment/traffic group.
- D. Copy the relevant columns from table B to table C (marked columns in table C).

12. Go to Summery sheet, and:

- Copy table C from "inventory" sheet into table D (marked columns).

- B. Columns I to O are built in formulas. You will find the formula in the first row coloured in red. Clear all rows except the first row and Drag the formula to the end of the table to apply it. Then, copy paste as values. See sub-bullets for columns explanations:
 - a. Columns I and J- Calculate top & bottom threshold. For the top threshold we add 15%, the bottom threshold is the effective threshold itself.
 - b. Column K “potential range”- what is the range that will let us get the ER% to the Effective threshold.
 - c. Column L “Potential Range with Max 20%”- give us the potential range while taking into account the 20% increase and 30% decrease limitation.
 - d. Column M “max”- maximum increase of 20% from the current range.
 - e. Column N “min”- maximum decrease of 30% from the current range.
 - f. Column O “need to change”- the formula checks if the ER% is above the top threshold or below the bottom threshold. 1 indicates that a change is needed and 0 indicates that there is no need for change.
- C. Filter Table E for particular Display group, store traffic group, PB.
- D. Sort the ER% column from largest to smallest.
- E. Select graph 1→select data→ chart data range covers columns B to L in table D.
 - a. This graph present one assortment group in all the stores of certain traffic group. Use this graph to see the status in all stores and to find exceptions stores

Step 2 – Final Decision

- F. Copy summery sheet to create summery (2) sheet (right click on “summery”→move or copy→ (move to end)→ tick V in create a copy→ ok.
- G. Filter for each store/display group.
- H. In making decision to the final needed range, take into account:
 - a. The system recommendation (if need to change is 1 and to what to change “potential range).
 - b. If the needed changes don’t move the range above the max display or below the min display.
 - c. Look for exceptions- if the display for a certain assortment group was to low, the results might not be reflecting the true potential. In these cases, a manual call will be made.

When looking for exception you might want to use graph 1 from “summery” sheet to see how the range of one store compares to other stores in the same category.

➤ Ranging/Deranging Process	
Buyer + Merchandiser	<ul style="list-style-type: none"> Initial store ranging will get processed by Buying Team via Ranging Tool, post which any direct request for ranging SKU for store will get executed by merchandising team according to Range Gap. Ranging tool, helps in finding range gap in stores for a particular price band and subsequently range the new SKUs Deranging is system driven, wherein once the SKU becomes SLM2/ SLM3 in stores, said SKU will automatically get deranged in the system. In certain cases manual deranging is done by merchandising team such as Weights and Measurement issue ,Space constraint etc.
IT	<ul style="list-style-type: none"> Any abnormal error in Ranging Tool will be resolved with support of IT team.
Operation	<ul style="list-style-type: none"> Range Refresh Dashboard:-Merchandising team published Range Refresh Dashboard to operation team every fortnightly. <ul style="list-style-type: none"> This report represent range count gap available in stores Count of SLM2/SLM3 SKUs which are blocking stores new range count

➤ Exception Ranging Process	
Merchandiser	<ul style="list-style-type: none"> Merchandising Team will be review Exceptional Ranging Format send by Buying team and post approval of three HODs (Buying, Operation and RGM) exception ranging will consider
Buyer	<ul style="list-style-type: none"> Any new or Old SKUs performance is good & hence Buying Team want to extend the range , however they could not get ranging gap due to range gap issue, then they need to prepare Exception Ranging format and take approval from Buying, Operation & RGM HOD's. Post approval ranging can be extended in the store

Training, Benchmark (Process/Measure), Review/s

Range Effectiveness:-

Display Group	Traffic/Sales Gro	Store	Store Name	Average Range	ER	ER%	Effective Threshold	Current Range	Current Range Target	Current availability	Decision
Digital Cameras	G1	A003	Himalaya Mall	6.3	0.301587	5%	15%	7	4	7	4
Digital Cameras	G1	A003	Himalaya Mall	6.0	0.333333	6%	7%	6	4	7	4
Digital Cameras	G1	A003	Himalaya Mall	10.3	2.296296	22%	11%	12	14	12	12
Digital Cameras	G1	A003	Himalaya Mall	2.0	0.555556	28%	18%	3	4	3	4
Digital Cameras	G1	A004	Dev Arc Mall	10.3	1.690909	16%	4%	10	9	9	6

Range Target Upload:-

Site	Display Group Name	AG Name Description	Group Min Value	Group Max Value	Assort Group Min Val	Assortment Group Max	Description Assortment	Brand Label	AG Price Low Value	AG Price High Value
A168	2 in 1	2 in 1_PB:1	1	1	1	0	307			99999999
A168	AC Split	AC Split_PB:1	1	1	1	33	213			33000
A168	AC Split	AC Split_PB:2	1	1	1	6	214		33001	40000
A168	AC Split	AC Split_PB:3	1	1	1	11	215		40001	50000

Ranging Tool:-

The screenshot displays the 'Ranging Tool' interface. At the top, a title bar reads 'Allocation Matrix - Display Group:Phones, Assortment Group: Phones_PB:4, Origin Stock Location:D002'. The main window is divided into three sections:

- Actions:** Contains buttons for 'Filter Families', 'Save', 'Save & Execute', and 'Cancel', along with a refresh icon.
- Export:** Contains a download icon.
- Allocation Matrix:** A large table with columns for 'Stock Location', 'SL Description', 'Target', 'Valid Families', 'Original Gap', 'AG Buffer Penetration', 'Final Allocation', 'Final Gap', 'Final Gap %', and three columns for stock locations (216186, 217638, 217639). The table shows data for 'A139' and 'Eva Mall Vad...'. The 'Original Gap' is 9, and the 'AG Buffer Penetration' is 24%.

The 'Allocation Matrix' table is as follows:

Stock Location	SL Description	Target	Valid Families	Original Gap	AG Buffer Penetration	Final Allocation	Final Gap	Final Gap %	216186	217638	217639
A139	Eva Mall Vad...	38	29	9	24%	0	9	24%	Ranged 2	Allocate?	<input type="checkbox"/> Allocate?

Range Gap

Range Alignment Dashboard:-

DC (All)
Display Group Phones
Area manager (All)

Starvation

PB is under ranged

Saturation

PB is over ranged
refreshment problem (if
Display Group new ness %
< company avg% new ness)

Sum of # Of stores above the permitted target

Row Labels	Sum of Current range Count	Sum of Range Target	Sum of # Of SLM2 and above	Sum of # Of stores above the permitted target	Display group new ness
A001	157	206	26	0	18%
Phones_PB:1	6	6	0	0	
Phones_PB:2	11	19	2	0	

Exception Ranging Format:-

Sign-Off sheet for Exception Ranging											
Date- 27 / 11 / 2018											
Group	Refrigerators										
Count Of SKUs	4										
Reason for Exception ranging	xioami hero sku										
Store No	Store Name	Article No.	Article Description	Current Range Target	Current Available SKUs	Available SLM/ZD in store	GAP	5% Leeway Target	GAP 5% Leeway	SLM/ZD %	
A042	Del-Saket-A042	217665	PANASONIC FF REF 270L NR-BG272VDA3 BL 35	5	7	1	-2	6	-1	14%	
A010	Surat-Crossway-A010	217665	PANASONIC FF REF 270L NR-BG272VDA3 BL 35	7	12	3	-5	8	-4	25%	
A015	Baroda-CentreSquare-	217665	PANASONIC FF REF 270L NR-BG272VDA3 BL 35	11	12	1	-1	12	0	8%	