

Oracle® Retail Category Management
Configuration Guide
Release 12.1.2.3

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Preface

Oracle Retail Configuration Guides are designed so that you can view and understand the application's "behind-the-scenes" processing, including such information as the following:

- Key system administration configuration settings
- Technical architecture
- Functional integration dataflow across the enterprise
- Batch processing

Audience

Anyone who has an interest in better understanding the inner workings of the Category Management system can find valuable information in this guide. There are three audiences in general for whom this guide is written:

- System analysts and system operation personnel:
 - Who are looking for information about Category Management processes internally or in relation to the systems across the enterprise.
 - Who operate Category Management on a regular basis.
- Integrators and implementation staff who have the overall responsibility for implementing Category Management into their enterprise.
- Business analysts who are looking for information about processes and interfaces to validate the support for business scenarios within Category Management and other systems across the enterprise.

Related Documents

For more information, see the following documents in the Oracle Retail Category Management Release 12.1.2.3 documentation set:

- *Oracle Retail Category Management Release Notes*
- *Oracle Retail Category Management Installation Guide*
- *Oracle Retail Category Management User Guide*

Customer Support

<https://metalink.oracle.com>

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

For a base release (".0" release, such as 12.0), Oracle Retail strongly recommends that you read all patch documentation before you begin installation procedures. Patch documentation can contain critical information related to the base release, based on new information and code changes that have been made since the base release.

Oracle Retail Documentation on the Oracle Technology Network

In addition to being packaged with each product release (on the base or patch level), all Oracle Retail documentation is available on the following Web site:

http://www.oracle.com/technology/documentation/oracle_retail.html

Documentation should be available on this Web site within a month after a product release. Note that documentation is always available with the packaged code on the release date.

Conventions

Navigate: This is a navigate statement. It tells you how to get to the start of the procedure and ends with a screen shot of the starting point and the statement “the Window Name window opens.”

Note: This is a note. It is used to call out information that is important, but not necessarily part of the procedure.

This is a code sample
It is used to display examples of code

A hyperlink appears like this.

Introduction

This document provides information on the ASO Solution Extension library for Category Management, which contains the following functions:

- ASOSpace
- ASOAssort

Function Registration Requirements

Make sure the ASOExpressions function is registered in any domain(s) that use the ASO Solution Extension. This function is automatically registered by the Category Manager Installer during the installation process.

Syntax Conventions

The table below displays the syntax conventions used in this document.

| Indicator | Definition |
|---------------------------|--------------------------------------------------------------------------------------------------------|
| [...] | All options listed in brackets are optional. |
| {... ...} | Options listed in "{}" with " " separators are mutually exclusive (either/or). |
| {...,...} | Options listed in "{}" with "," separators way are a complete set. |
| Bold | Labels. |
| <i>Italics</i> | Italics indicate a temporary placeholder for a constant or a measure. |
| <i>Italics/meas</i> | This indicates that the placeholder can be either a constant or a measure. |
| <i>BoldItalics</i> | This indicates a numeric placeholder for the dynamic portion of a label. Usually a number from 1 to N. |
| Normal | Normal text that has to be there. |
| <u>Underlined</u> | This convention is used to identify the function name. |

Configuring the ASOSpace Function

Space optimization begins with a RPAS special expression called ASOSpace. The expression is evaluated in a procedure and will be the starting point for all calculations. This special expression will be recognizable by RPAS and will be used as a calc rule for the appropriate measures. Since all measures are registered at the week level and Space optimizes at the phase level, the calc rule will aggregate all the appropriate measures to the correct level using the aggregated method specified for each measure. All measures are configured at the appropriate subcategory level and ASOSpace can differentiate between the different configurations so no alterations are needed.

ASOSpace will take data from specific measures in the domain and use this data to perform the calculation process to create and calculate a Profit Matrix and a Plano Size Matrix at the subcategory level. For result measures, the phase level result will be spread down to be stored at the week level. 100 histogram data points will also be recorded in the domain.

Data Requirements for ASOSpace (Macro)

This section provides information about the various data requirements when using the ASOSpace function. Some of this information may need to be combined through rules before calling the special expression, as called out in the parameter descriptions provided.

Profit Table Information

ASOSpace requires the following profit table information:

- Profit Vector.
- Planogram Length Vector.

Constraint Information

ASOSpace requires the following constraint information:

- Minimum Space by SubCat/Str/Phase.
- Maximum Space by SubCat/Str/Phase
- Maximum Capacity constraint by Str/Phase.
- Constraint Type (L for LESSEQUAL, E for EQUAL).

ASOSpace Function Syntax

The syntax for using the ASOSpace function appears below. The input and out parameter table explain the specific usage of the parameters names use in the function.

Generic Example:

```
OPTPROFITLB, OPTSPACELB, HISTPROFITLB, HISTSPACELB, OPTRESULTLB <-
ASOSpace (MAXCAPACITYLB, CONSTRAINIMODELB, INCLUDELB, MANDATORYLB, MINSPACELB,
MAXSPACELB, PROFITLISTLB, SPACELISTLB, OPTMETHODLB)
```

Sample:

```
OPTPROFITLB:MgOtExpProfR.level([clnd].[phse]),
OPTSPACELB:MgOtSpaceX.level([clnd].[phse]),
HISTPROFITLB:MgOtHistProfR.level([clnd].[phse]),
HISTSPACELB:MgOtHistCostX.level([clnd].[phse]),
OPTRESULTLB:MgOtResultX.level([clnd].[phse]) <-
ASOSpace (MAXCAPACITYLB:MgWpMaxCapX.level([clnd].[phse]),
CONSTRAINIMODELB:MgWpConsTypSl.level([clnd].[phse]),
INCLUDELB:MgWpIncludeB.level([clnd].[phse]),
MANDATORYLB:MgWpManCatB.level([clnd].[phse]),
MINSPACELB:MgWpMinSpX.level([clnd].[phse]),
MAXSPACELB:MgWpMaxSpX.level([clnd].[phse]),
PROFITLISTLB:AdWpPogPftR.level([clnd].[phse]),
SPACELISTLB:AdWpPogLX.level([clnd].[phse]),
OPTMETHODLB:MgWpOptMthX.level([clnd].[phse]))
```

Configuration Parameters and Rules

Input Parameters

The table below provides the input parameters for the ASOSpace function.

| Parameter Name | Measure Name from Category Management Template | Description |
|------------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MAXCAPACITYLB | MgWpMaxCapX | A real number indicating the maximum total space that the optimized solution can reach per LOC/CLND. Data Type: Real Intersection: STR/PHSE Required: Yes |
| CONSTRAINIMODELB | MgWpConsTypSl | An integer measure indicating the space constraint type per LOC/CLND. The following four modes are available: <ul style="list-style-type: none"> ▪ less/equal ▪ approxequal ▪ exactlyequal ▪ greater/equal The default value is less/equal. Data Type: Real Intersection: STR/PHSE Required: No |

| Parameter Name | Measure Name from Category Management Template | Description |
|----------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INCLUDELB | MgWpIncludeB | A Boolean measure indicating if a PRD/LOC/CLND is included in the space optimization. Data Type: Boolean Intersection: SCAT/STR/PHSE Required: Yes |
| MANADATORYLB | MgWpManCatB | A Boolean measure indicating that a PROD/LOC/CLND has to be included in the optimization solution. Data Type: Boolean Intersection: SCAT/STR Required: Yes |
| MINSPACELB | MgWpMinSpX | Minimum Space Constraint for a PROD/LOC/CLND. Data Type: Real Intersection: SCAT/STR/PHSE Required: Yes |
| MAXSPACELB | MgWpMaxSpX | Maximum Space Constraint for a PROD/LOC/CLND. Data Type: Real Intersection: SCAT/STR/PHSE Required: Yes |
| PROFITLISTLB | AdWpPogPftR | A real measure indicating the profit per PROD/LOC/CLND/POG Data Type: Real Intersection: SCAT/STR/PHSE/PLNG Required: Yes |
| SPACELISTLB | AdWpPogLX | A real measure indicating the profit per PROD/LOC/CLND/POG. Data Type: Real Intersection: SCAT/STR/PHSE/PLNG Required: Yes |
| OPTMETHODLB | MgWpOptMthX | An integer measure indicating the optimization method per LOC/CLND. The available methods are as follows: <ul style="list-style-type: none"> ▪ Optimal (dynamic programming) ▪ Heuristic Data Type: Real Intersection: STR/PHSE Required: No |

Output Parameters

The table below provides the output parameters for the ASOSpace function.

| Parameter Name | Measure Name from Category Management Template | Description |
|----------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPTPROFITLB | MgOtExpProfR | The Optimized Profit Solution per PROD/LOC/CLND. Data Type: Real Intersection: SCAT/STR/PHSE Required: Yes |
| OPTSPACELB | MgOtSpaceX | The Optimized Space per PROD/LOC/CLND. Data Type: Real Intersection: SCAT/STR/PHSE Required: Yes |
| HISTPROFITLB | MgOtHistProfR | Profit histogram from optimization. This parameter is only an option when choosing the dynamic programming as OPTMETHODLB. Data Type: Real Intersection: STR/PHSE/LNUM Required: No |
| HISTSPACELB | MgOtHistCostX | The corresponding space for the histogram. This parameter is only an option when choosing the dynamic programming as OPTMETHOD. Data Type: Real Intersection: STR/PHSE/LNUM Required: No |
| OPTRESULTLB | MgOtResultX | The corresponding space for the histogram. This parameter is only an option when choosing the dynamic programming as OPTMETHOD. Data Type: Real Intersection: STR/PSHE Required: No |

ASOSpace Troubleshooting

If errors and issues are encountered when working with the ASOSpace function, inspect the following items:

- Ensure that the lhs and rhs of the expression have the correct number of arguments.
- Ensure that the lhs and rhs of the expression are measures.
- Ensure that all non-Boolean measures are set to a type of Real.
- Ensure that all measures are set to the proper base intersections.
- Ensure that the Product, Location, and Calendar positions being used for the optimization have populated input values.

Error Codes

Data validation will be performed per LOC/CLND combination prior to optimization. Optimization will be skipped if the data validation fails. Optimized profit can store some of the errors on PROD/LCO/CLND level. It can be displayed in the RPAS Client as a picklist. The following table provides a list of error codes that may be displayed if an issue is encountered.

| Error Code | Description |
|------------|--------------------------------------------------------------------------------------|
| -999 | Invalid maxcapacity |
| -998 | Invalid optimization method |
| -997 | Invalid constraint mode |
| -996 | Maximum space less than minimum space |
| -995 | Invalid mandatory subcategory with invalid maximum space |
| -994 | Solution not feasible, the total of mandatory minimum space is over maximum capacity |
| -992 | Mandatory items with invalid profit table |

Configuring the ASOAssort Function

ASOAssort function uses a specialized Dynamic Programming method to generate optimal Assortment plan that maximize total profit constraint by total shelf space. This is based on each item's size, cost, retail price, demand; and a store's operating time and replenishment strategy.

Although the target of the optimization is for each item, the ASOAssort function divides the total problem into two levels and solves it level by level to improve performance. The first level is called "Collection" in Assortment Planning terminology, which is usually implemented on the "STYL" dimension. The second level is called "Subcategory," which is usually implemented on the "SCAT" dimension. For this reason, the ASOAssort function requires some duplicated inputs on multiple levels, like Include Flag and Mandatory Flag. For Calendar, the time period used for Assort Optimization is usually called a "Phase," which is implemented on the "PHSE" dimension.

Input arguments for the ASOAssort function (like Cost and Retail Prices) are in the unit of Dollars. Demand is in the unit of Units. For Size arguments, the unit is usually Planogram size, which will be converted to real size metric like inches or centimeters based on UOM inputs.

The output of ASOAssort is the optimal planogram. Both the solutions at the Subcategory level and the Collection level are returned together with the profit/cost table at each level, the Stock Out unit/dollars table, and the histogram table at the item level.

Data Requirements for ASOAssort (Micro)

This section provides information about the various data requirements when using the ASOAssort function. Some of this information may need to be combined through rules before calling the special expression, as called out in the parameter descriptions provided.

Demand, Retail, and Replenishment Requirements

ASOAssort requires the following demand, retail, and replenishment information:

- Regular Demand
 - Average Weekly Regular demand per Item/Str/Phase
- Maximum Demand by SKU/Store/Phase.
- Item Cost by SKU/Str/Phase.
- Item Price by SKU/Str/Phase.
- Lead Time by SKU/Str/Phase.
- Minimum number of facings to be included in the Planogram by SKU/Str/Phase.
- Maximum number of facings to be included in the Planogram by SKU/Str/Phase.
- Minimum shelf presence in units by SKU/Str/Phase.

Planogram Information

ASOAssort requires the following planogram information:

- The planogram length by Str/Phase.
- The unit of measure for Planogram length.

Shelf Information

ASOAssort requires the following shelf information:

- Number of Shelves by SKU/Str/Phase.
- Number of units that can sit on a shelf depth wise by SKU/Str/Phase by SKU/Str/Phase.
- The Number of Shelves that can be used by Str/Phase.
- Item width by SKU/Str/Phase.
- The unit of measure for ITEMWIDTHLB.
- The incremental size that will be considered for each sub-category.

Store and Stock Clerk Operation Hours Information

ASOAssort requires the following store and stock clerk information:

- Number of hours the store is open for business per optimization period (Phase) by Str/Phase.
- Number of hours between the stock clerk's rounds by Str.

Optional Values

The following optional values can be set to default values for demonstration purposes:

- Percentage of Safety Stock relative to Regular Demand by SKU/Str/Phase.
- Probability the stock clerk will successfully replenish the shelf when supply falls below Minimum Shelf Presence quantity.

Additional Inputs

When using the ASOAssort function, the user is expected to provide following inputs from the workbook:

- Identify if the item is required (mandatory) in the final item mix.
- Identify the Constraint Type (L for LESSEQUAL, E for EQUAL).
- Indicate whether a STYL is required (mandatory) to show up in the final mix.
- Indicate whether a STYL is included in the calculation

ASOAssort Function Syntax

The syntax for using the ASOAssort function appears below. The input and out parameter table explain the specific usage of the parameters names use in the function.

Generic Example:

```
OPTFACINGLB, OPTPROFITLB, OPTSPACELB, OPTSALESLB, OPTLOSTSALESLB,
OPTLOSTSALESOLLARLB, HISTPROFITLB, HISTSPACELB, OPTRESULTLB <-
ASOAssort(INCLUDELB, MINFACINGLB, MAXFACINGLB, MINSHELFPRESLB, FACINGCAPACITYLB,
DEMANDLB, MAXSUPPLYLB, MANDATORYLB, ITEM COSTLB, OPERATINGHOURS LB,
STOCKCLERKSUCCESSRATELB, STOCKCLERKCYCLETIMELB, ITEMRETAILLB, ITEMWIDTHLB,
CONSTRAINTMODEL B, MAXCAPACITYLB, OBJFUNCLB, OPTMETHODLB, WEIGHTLB)
```

Sample:

```
OPTFACINGLB:PlOtItmRecFacX.level([clnd].[phse]),
OPTPROFITLB:PlOtItmProfR.level([clnd].[phse]),
OPTSPACELB:PlOtItmSolCstX.level([clnd].[phse]),
OPTSALESLB:PlOtItmBuyQtyU.level([clnd].[phse]),
OPTLOSTSALESLB:PlOtItmStkOutU.level([clnd].[phse]),
OPTLOSTSALESOLLARLB:PlOtItmStkOutR.level([clnd].[phse]),
HISTPROFITLB:PlOtHistProfR.level([clnd].[phse]),
HISTSPACELB:PlOtHistCostX.level([clnd].[phse]),
OPTRESULTLB:PlOtResultX.level([clnd].[phse])<- ASOAssort(INCLUDELB:
PlWpIncludeB.level([clnd].[phse]), MINFACINGLB:PlWpMinFacX.level([clnd].[phse]),
MAXFACINGLB:PlWpMaxFacX.level([clnd].[phse]), MINSHELFPRESLB:PlWpRstKTrgU.level([cl
nd].[phse]), FACINGCAPACITYLB:PlWpFacCapX.level([clnd].[phse]),
DEMANDLB:PlFcDemandU.level([clnd].[phse]),
MAXSUPPLYLB:PlWpSupplyMaxU.level([clnd].[phse]),
MANDATORYLB:PlWpManItmB.level([clnd].[phse]),
ITEMCOSTLB:PlWpItmCstC.level([clnd].[phse]),
OPERATINGHOURS LB:AdWpOpHrsX.level([clnd].[phse]),
STOCKCLERKSUCCESSRATELB:AdWpStkClSrtX, STOCKCLERKCYCLETIMELB:AdWpStkClkCTX,
ITEMRETAILLB:PlWpItmRetR.level([clnd].[phse]),
ITEMWIDTHLB:PlWpItmW2X.level([clnd].[phse]),
CONSTRAINTMODEL B:PlWpConsTypSl.level([clnd].[phse]), MAXCAPACITYLB:
PlWpMaxCapX.level([clnd].[phse]), OBJFUNCLB:PlWpObjFuncX.level([clnd].[phse]),
OPTMETHODLB:PlWpOptMthX.level([clnd].[phse]),
WEIGHTLB:PlWpWeightX.level([clnd].[phse]))
```

Configuration Parameters and Rules

Input Parameters

Note that the Optimization special expression can take inputs with or without the planogram dimension. Also, planogram dimension could be called anything; the special expression is not hard coded to look for specific dimension names that represent planogram. The intersection of the `INCLUDELB` parameter drives the intersections that are expected by the special expression. For example, if the `INCLUDELB` parameter includes a planogram dimension, then the special expression expects other relevant measures (as listed below) to include the same planogram dimension as well.

The table below provides the input parameters for the ASOAssort function.

| Parameter Name | Measure Name from Category Management Template | Description |
|----------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| INCLUDELB | PIWpIncludeB | A Boolean measure indicating if a PROD/LOC/CLND is included in the assortment optimization. Data Type: Boolean Intersection: SKU/STR/PHSE or SKU/STR/Planogram/PHSE Required: Yes |
| MINFACINGLB | PIWpMinFacX | The Minimum Number of Facings that must be included in the planogram. Data Type: Real Measure must have a non-zero value. Intersection: SKU/STR/PHSE or SKU/STR/Planogram/PHSE Required: Yes |
| MAXFACINGLB | PIWpMaxFacX | The Maximum Number of Facings that can be included in the planogram. Data Type: Real Measure must have a non-zero value. Intersection: SKU/STR/PHSE or SKU/STR/Planogram/PHSE Required: Yes |
| MINSHELFPRESLB | PIWpRstkTrgU | The Minimum Shelf Presence in Units. Data Type: Real Measure values must be less than <code>FACINGCAPACITYLB</code> . Intersection: SKU/STR/PHSE or SKU/STR/Planogram/PHSE Required: Yes |

| Parameter Name | Measure Name from Category Management Template | Description |
|-----------------------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FACINGCAPACITYLB | PIWpFacCapX | The number of units deep that can sit on a shelf. Data Type: Real Measure values must be greater than MINSHELFPRESLB. Intersection: SKU/STR/PHSE or SKU/STR/Planogram/PHSE Required: Yes |
| DEMANDLB | PIFcDemandU | Regular Demand Rate; the number of units in demand per PHSE. Data Type: Real Intersection: SKU/STR/PHSE or SKU/STR/Planogram/PHSE Required: Yes |
| MAXSUPPLYLB | PIWpSupplyMaxU | The maximum supply amount per PROD/LOC/CLND. This input should be decided by replenishment setting. It can be configured as $\text{MaxDemand} * \text{LeadTime} * (1 + \text{SafetyStockFactor})$. Data Type: Real Intersection: SKU/STR/PHSE or SKU/STR/PLANOGRAM/PHSE Required: Yes |
| MANDATORYLB | PIWpManItmB | The Mandatory Include Flag measure. Indicates whether the item is required in the final mix. Data Type: Boolean Intersection: SKU/STR/PHSE or SKU/STR/Planogram/PHSE Required: Yes |
| ITEMCOSTLB | PIWpItmCstC | The cost of the item to the retailer. Data Type: Real Intersection: SKU/STR/PHSE Required: Yes |
| OPERATINGHOURS | AdWpOpHrsX | The number of Hours that the store is open for business, per optimization period (PHSE). Data Type: Real Intersection: STR/PHSE Required: Yes |
| STOCKCLERKSUCCESS RATELB | AdWpStkCISRtX | Defined as the probability that the stock clerk will successfully replenish the shelf when the supply falls below the Minimum Shelf Presence (MINSHELFPRESLB) quantity. Data Type: Real Intersection: STR Required: Yes |

| Parameter Name | Measure Name from Category Management Template | Description |
|-----------------------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STOCKCLERKCYCLETIMELB | AdWpStkClkCTX | The number of hours between the stock clerk's rounds. Measure values must be greater than zero (0). Data Type: Real Intersection: STR Required: Yes |
| ITEMRETAILLB | PIWpItmRetR | The item cost to the consumer. Must be in the same unit as item cost. Data Type: Real Intersection: SKU/STR/PHSE Required: Yes |
| ITEMWIDTHLB | PIWpItmW2X | A real measure indicating item width on the shelf. The item width must be inches. Data Type: Real Intersection: SKU/STR/PHSE Required: Yes |
| CONSTRAINTMODELB | PIWpConsTypSI | Constraint type, which are defined as follows: <ul style="list-style-type: none"> ▪ L for LESSEQUAL ▪ E for EQUAL Data Type: Real Intersection: STR/PHSE Required: No |
| MAXCAPACITYLB | PIWpMaxCapX | A real measure indicating the maximum total space that the optimized solution can reach per LOC/CLND/PLANOGRAM. This input must be in inches. It can be calculated as planosize* numofShelves. Data Type: Real Intersection: STR/PHSE Required: Yes |
| OBJFUNCLB | PIWpObjFuncX | An integer measure indicating which objective function is used in the optimization. The available modes are as follows: <ul style="list-style-type: none"> ▪ Profit ▪ Revenue return on space ▪ Unit return on space ▪ Gross margin return on space The default value is profit. Data Type: Real Intersection: STR/PHSE Required: No |

| Parameter Name | Measure Name from Category Management Template | Description |
|----------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPTMETHODLB | PIWpOptMthX | An integer measure indicating the optimization method per LOC/CLND. The available methods are as follows: <ul style="list-style-type: none"> ▪ Optimal (dynamic programming) ▪ Heuristic The default value is Heuristic. Data Type: Real Intersection: STR/PHSE Required: No |
| WEIGHTLB | PIWpWeightX | A real measure to be multiplied with the OBJECTIVEFUNC for optimization. Data Type: Real Intersection: SKU/STR/PHASE Required: No |

Output Parameters

The table below provides the output parameters for the ASOAssort function.

| Parameter Name | Measure Name from Category Management Template | Description |
|----------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| OPTFACINGLB | PIOtItnRecFacX | Item solution recommended facing table. Data Type: Real Intersection: SKU/STR/PHSE Required: No |
| OPTPROFITLEB | PIOtItnProfR | Item solution expected profit table. Data Type: Real Intersection: SKU/STR/PHSE Required: Yes |
| OPTSPACELB | PIOtItnSolCstX | Item solution expected cost table. Data Type: Real Intersection: SKU/STR/PHSE Required: Yes |
| OPTSALESB | PIOtItnBuyQtyU | Item solution expected buy quantity table. Data Type: Real Intersection: SKU/STR/PHSE Required: No |
| OPTLOSTSALESB | PIOtItnStkOutU | Item solution stock out units table. Data Type: Real Intersection: SKU/STR/PHSE Required: No |

| Parameter Name | Measure Name from Category Management Template | Description |
|---------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPTLOSTSALESOLLARLB | PIOtItnStkOutR | Item solution stock out dollars table. Data Type: Real Intersection: SKU/STR/PHSE Required: No |
| HISTPROFITLEB | PIOtHistProfR | Histogram profit data points. Data Type: Real Intersection: STR/PHSE/LNUM Required: No |
| HISTSPACELB | PIOtHistCostX | Histogram cost data points. Data Type: Real Intersection: STR/PHSE/LNUM Required: No |
| OPTRESULTLB | PIOtResultX | The corresponding space for the histogram. This parameter is only an option when choosing dynamic programming as OPTMETHODLB. Data Type: Real Intersection: STR/PSHE Required: No |

ASOAssort Troubleshooting

If errors and issues are encountered when working with the ASOAssort function, inspect the following items:

- Ensure Measure Usage Comments are complied.
- Ensure that the lhs and rhs of the expression have the correct number of arguments.
- Ensure that the lhs and rhs of the expression are measures.
- Ensure that all non-Boolean measures are set to a type of Real.
- Ensure that all measures are set to the proper base intersections.
- Ensure that the Product, Location and Calendar positions being used for the optimization have populated input values.

Error Codes

Data validation will be performed per LOC/CLND/PLANOGRAM combination prior to optimization. Optimization will be skipped if the data validation fails. Optimized profit can store some of the errors on PROD/LCO/CLND/PLOANOGRAM level. It can be displayed in the RPAS Client as a picklist. The following table provides a list of error codes that may be displayed if an issue is encountered.

| Error Code | Description |
|------------|-----------------------------|
| -999 | Invalid maxcapacity |
| -998 | Invalid optimization method |
| -997 | Invalid constraint mode |

| Error Code | Description |
|-------------------|--------------------------------------------------------------------------------------|
| -996 | Maximum space less than minimum space |
| -995 | Invalid mandatory item with invalid maximum space |
| -994 | Solution not feasible, the total of mandatory minimum space is over maximum capacity |
| -993 | Weights for all the products are zero |
| -992 | Mandatory items with invalid profit table |
| -991 | Invalid objective function |
| -990 | Invalid store operating hours |
| -989 | Invalid stock clerk success rate |
| -988 | Invalid stock clerk cycle time |
| -987 | No include item |
| -986 | Invalid facing capacity |
| -985 | Invalid minimum shelf presence |
| -984 | Invalid item width |
| -983 | Invalid item retail |
| -982 | Invalid item cost |
| -981 | Invalid demand |
| -980 | Mandatory item with invalid maximum supply |

Appendix: Using the Category Management Sample Dataset

The Category Management configuration is now packaged with a sample dataset that supports the use of the template for demonstration purposes. The table below provides a list of data files (.ovr) that are now included (in addition to the hierarchy files) in the “input” directory of the Category Management package: The Category Management package also includes the “load_meas” script to support the loading of these measures into the resulting domain. Before executing the script, the DOMAIN environment variable must be set to the location of the Category Management domain.

| Category Management Data Files | | |
|--------------------------------|---------------|-----------------|
| AdWpCompDefTx | PIWpGMR | PIWpScatClstLTx |
| AdWpOpHrsX | PIWpGMRp | PIWpScatClstNTx |
| AdWpPogLDptX | PIWpItmCst2C | PIWpSctClstLTx |
| AdWpPogLX | PIWpItmCstC | PIWpSctClstNTx |
| AdWpPogPftDptR | PIWpItmDescTx | PIWpSfySkMultX |
| AdWpPogPftR | PIWpItmRet2R | PIWpSkuBrndB |
| AdWpStkClkCTX | PIWpItmRetR | PIWpSkuFeatTx |
| PIFcDemandU | PIWpLeadTimeX | PIWpSlsAr |
| PISpFacCapX | PIWpMaxFacX | PIWpSlsC |
| PISpItmWX | PIWpMaxLTX | PIWpSlsProC |
| PIWpAvgInvC | PIWpMinFacX | PIWpSlsR |
| PIWpAvgInvR | PIWpMkdC | PIWpSlsU |
| PIWpAvgInvU | PIWpNMR | PIWpStrClstLTx |
| PIWpCarryCstC | PIWpNMRp | PIWpStrClstNTx |
| PIWpCstFndsC | PIWpPayTermsX | PIWpStrDescTx |
| PIWpFreightC | PIWpRstkTrgU | PIWpVndRvAlwC |

Note: It is important to note that the sample dataset does not include data for all locations, products, and calendar positions. To generate optimization results, you must select relevant data.
