|  |
| --- |
| **Documentation for Jeff base table mapping to parent ASIN** |

|  |  |  |
| --- | --- | --- |
| **Item** | **Description** | **Comments** |
| Current Scenario | In the Jeff base table, inventory status and action item bucket are mapped on child-ASIN x MP level and not on parent-ASIN x MP level |  |
| Goal | Create an output table which has ASIN x MP x Week-year from the Jeff table, mapped to the corresponding parent-ASIN & dominant-child-ASIN | The inventory status & action item bucket for the dominant-child act as proxies for the same for parent-ASIN |
| Input tables | rgbit\_coupon\_jeff\_base\_v2 | Jeff base table |
| child\_parent\_asin\_mapping | Parent-Child ASIN mapping |
| tech\_tables.tech\_asin\_country\_orders\_marketing\_data\_fbmfba\_final | Net revenue used in logic for identifying dominant-child-ASIN |
| Output table | temp\_parent\_dom\_child\_inv\_and\_action |  |
| Github | [link](https://github.com/ravindra-sagar-razor/dominant-child-mapper/blob/17e6b5579250f6c80e1c77c4b2f54f406f982965/jeff_base_parent_inv_and_action_item_mapper.sql) |  |

**Key terms**

1. Inventor status: Obtained from the Jeff base table in the field ‘inventory\_bucket’. Indicates the inventory health on ASIN X MP level. Can be “OOS”/“Overstock”/”Healthy Stock”/”Low Stock”.
2. Action item bucket: Obtained from the Jeff base table in the field ‘action\_item\_bucket’. Indicates the ASIN nature on ASIN X MP level. Can be “Cash\_in”/“Velocity”/”Margin”/”Stable”.
3. Dominant-child-ASIN: For a given parent-ASIN x MP x week-year combination, we identify a unique dominant-child-ASIN among its child-ASINs whose inventory status and action item bucket can act as proxy for the same of the parent-ASIN x MP. A detailed explanation of the logic to identify dominant-child-ASIN is given in the ‘Notes’ section.

**Notes**

1. Input ASINs: Only those ASIN x MP x week-year combinations in the Jeff base table, that **do not have the inventory status set to ‘OOS’** andweek-year within 12 weeks of the latest week-year in the Jeff base table are considered for the mapping
2. Logic for identifying dominant-child-ASIN:
   1. For identifying the dominant-child-ASIN, weighted TTM net revenue (Net revenue earned recently will have a higher weightage as compared to net revenue earned at an older point in time) is used.
   2. The current iteration of the code uses linear weights for calculating weighted TTM net revenue i.e. net revenue earned within the week-year month has a weightage of 1, and this weightage decreases linearly every month, till the weightage of net revenue earned twelve months prior to the week-year month becomes zero.
   3. The weighted TTM net revenue is then calculated using the formula summation of weight x net\_revenue rolled up on ASIN x MP x week-year level
   4. Then, for a given parent-ASIN x MP, the child-ASIN x MP x week-year combination having the highest weighted TTM net revenue is considered the dominant-child-ASIN for that week-year.
   5. In case, a parent-ASIN x MP has multiple child-ASINs x MP in the same week-year with the same weighted TTM net revenue, the child-ASIN which comes last in the alpha-numeric order is taken as the dominant-child-ASIN
3. Output table:
   1. Methodology: Input ASIN x MP combinations are mapped to parent-ASIN x MP from the parent-child mapping table. Then parent-ASIN x MP x week-year combinations are mapped to the corresponding dominant-child-ASIN x MP x week-year combination to obtain the final output
   2. Only those ASIN x MP x Week-year combinations in the Jeff base table, that **do not have the inventory status set to ‘OOS’** andweek-year within 12 weeks of the latest week-year in the Jeff base table will be available in the output table as only these combination are considered in the input
   3. The output will be unique on ASIN x MP x Week-year level
   4. The dominant-child-ASIN x MP for a given parent-ASIN x MP may vary with the week-year as the weighted TTM net revenue for a child-ASIN x MP varies with the week-year
   5. The explanation for columns in the output table is given below

|  |  |  |
| --- | --- | --- |
| **temp\_parent\_dom\_child\_inv\_and\_action** | | |
| **Field** | **Description** | **Source** |
| final\_date | Last day of week-year | Jeff base table |
| week\_year | Year and week no combination | Jeff base table |
| asin | Child-ASIN | Jeff base table |
| parent\_asin | Parent-ASIN | Parent child ASIN mapping table |
| country\_code | Market place | Jeff base table |
| inventory\_bucket | Child-ASIN inventory status | Jeff base table |
| action\_item\_bucket | Child-ASIN action item bucket | Jeff base table |
| dom\_child\_asin | Dominant-child-ASIN | Jeff base table (based on dominant child logic) |
| dom\_inventory\_bucket | Dominant-child-ASIN inventory status | Jeff base table (based on dominant child logic) |
| dom\_action\_item\_bucket | Dominant-child-ASIN action item bucket | Jeff base table (based on dominant child logic) |

**Working code**

**create** **table** temp\_parent\_dom\_child\_inv\_and\_action **as**

**with** parent\_child\_map **as** (

**select** **distinct** child.final\_date

,child.week\_year

,child.**asin**

,**nvl**(parent.parent\_asin,child.**asin**) **as** parent\_asin

,child.country\_code

,child.inventory\_bucket

,child.action\_item\_bucket

**from** (**select** \*, **dense\_rank**() **over** (**order** **by** week\_year **desc**) **as** week\_rank **from** rgbit\_coupon\_jeff\_base\_v2 **where** "inventory\_bucket"!='OOS') **as** child

**left** **join**(

**select** "child asin" **as** child\_asin

, "parent asin" **as** parent\_asin

, marketplace

**from** child\_parent\_asin\_mapping) **as** parent

**on** child.**asin** = parent.child\_asin **and** child.country\_code = parent.marketplace

**where** week\_rank <= 12

)

**select** **distinct** c.\*

,d.**asin** **as** dom\_child\_asin

,d.inventory\_bucket **as** dom\_inventory\_bucket

,d.action\_item\_bucket **as** dom\_action\_item\_bucket

**from** parent\_child\_map **as** c

**left** **join**(

**select** b.\*

, mapper.weighted\_revenue

, **Rank**() **over** (**partition by** b.parent\_asin, b.country\_code, b.final\_date **order by** mapper.weighted\_revenue, mapper.**asin** **desc**) **as** **rank**

**from** parent\_child\_map **as** b

**left** **join**(

**select** final\_date

, **asin**

, country\_code

, **sum**(net\_revenue\*weight) **as** weighted\_revenue

**from**(

**select** base.final\_date

,base.**asin**

,base.country\_code

,orders.net\_revenue

,1 - (DATEDIFF(**month**, orders.final\_date, base.final\_date)/13) **AS** weight

**from** parent\_child\_map **as** base

**left** **join** tech\_tables.tech\_asin\_country\_orders\_marketing\_data\_fbmfba\_final **as** orders

**on** base.**asin** = orders.**asin** **and** base.country\_code = orders.country\_code

**where** orders.final\_date >= DATEADD(**month**, -12, base.final\_date) **and** DATEDIFF(**day**, orders.final\_date, base.final\_date) >=0

)

**group** **by** final\_date, **asin**, country\_code

) **as** mapper

**on** b.**asin** = mapper.**asin** **and** b.country\_code = mapper.country\_code **and** b.final\_date = mapper.final\_date

) **as** d

**on** c.parent\_asin = d.parent\_asin **and** c.country\_code = d.country\_code **and** c.week\_year = d.week\_year

**where** d.**rank** =1

**order** **by** parent\_asin, final\_date, country\_code

**Code Explanation**

Step 1: Creating CTE ‘parent\_child\_map’**.** This gives the ASINs x MP x week-year combinations which need mapping.

Step 2: Creating the main output table:

1. Mapping the ‘parent\_child\_map’ to ‘tech\_tables.tech\_asin\_country\_orders\_marketing\_data\_fbmfba\_final’ to get all orders within twelve months prior to the week-year
2. Calculating weights for each order based on order date and week-year difference
3. Calculating weighted TTM net revenue on final\_date x asin x country\_code level 🡪 mapper
4. Mapping to ‘parent\_child\_map’ on asin x final\_date x country\_code level to obtain parent\_asin 🡪 d
5. Identifying the dominant-child for a parent asin by ranking weighted TTM net revenue
6. Mapping to ‘parent\_child\_map’ to current table based on parent\_asin, country\_code and final\_date