Business Requirements Document

Create new tables for Product Coverage Analysis

**Prepared by: SUI Yanfei**

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Revision History (Mandatory)

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| 01 | 2023.10.31 | Yanfei Sui | Create tables for Product coverage analysis |
|  |  |  |  |

Reviewers

|  |  |  |
| --- | --- | --- |
| **Reviewers** | **Representing Area** | **Date of Review** |
|  | *Example: BA / Project Manager / Architect / Technical Leader* |  |
| Yanfei SUI | BA | 2023.10.31 |
| Peng TU | PM | 2023.10.31 |
| Min Wei | User | 2023.10.31 |
| Zuozhuo Zhao | User | 2023.10.31 |

* *This table is used to track the people who review this document.*

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# Introduction

## Project Background (mandatory)

* Evaluate product coverage and identify sale potentials for the uncovered application.
* Provide data support for the next production and marketing strategies of new products, improve product coverage and market share.

## Project Scope (mandatory)

* Need to create a new tables.
* No other function added.

## Definitions, Acronyms, and Abbreviations

The first-time usage of any term, acronym, or abbreviation within this document are defined in the table below.

*Table 1. Definitions, Acronyms, and Abbreviations*

| Term | Definition |
| --- | --- |
| *Example:*  *BRD* | *Business Requirements Document. The document records changes in work activities and work practices, usually including the introduction of the latest information systems and/or services, to help the organization achieve its aims and objectives.* |
|  |  |

# Functional Requirements

This section describes the detailed functional requirements.

## Affected Functional Areas (mandatory)

The following table is a checklist indicating areas that are or are not affected by this project. Note that “Areas” and “Considerations” are not all-inclusive but are meant to elicit dialog between different teams and groups.

*Table 2. Affected Functional Areas*

| Areas | Considerations | Affected (Yes or No) | Manner Affected |
| --- | --- | --- | --- |
|  |  | NO |  |
|  |  |  |  |
|  |  |  |  |

## Detailed Functional Requirements

This section documents all detailed requirements.

### Indicator List and Definition (mandatory)

The following table lists all required indicators and corresponding definitions and dimensions that meet business requirements. **If need table change, that goes to Data model change, if not, changes can be implemented in analytic layers (eg: BI report).**

*Table 3. List And Definition of key Indicators*

| Requirement ID | Indicator | Business Definition | Data Definition | Dimensions | Need Table change |
| --- | --- | --- | --- | --- | --- |
| *1* | cov\_flag | *Indicates whether the product can cover market demand* | *If the product can cover market demand, then 1 otherwise 0(removing brake oil)* | Coverage rate flag | *Yes* |
| *2* | pcd\_flag | *Identify whether the product is on sale* | *If pcd\_status ='01'*  *then 1 otherwise 0* | Pcd flag | *Yes* |
| *3* | OE | *Coarser grained identification compared to source\_id and product\_line* | *Splitting of indicator ofo* | *OE* | *Yes* |
| *4* | demands | *Evaluate the level of demand for the product* | *Divide the quantity of materials received by the number of vacant products* | *demands* | *Yes* |
| *5* | Focus\_cat | *Is the product category being followed* | *Exists in category name lists then 1 otherwise 0* | *Focus cat* | *Yes* |

### Data Model (mandatory if need table change)

Two new columns will be added in the current table.

dws\_wks\_coverage\_analysis\_temp ( No need to create a table)

dwd\_kindle\_coverage\_ana\_with\_pcd\_status

dwd\_covered\_product\_line\_pcd\_na

dim\_bosch\_coverage\_lid

dws\_wks\_coverage\_analysis\_ sum

dws\_wks\_coverage\_analysis\_uncovered\_levelid

dws\_uncovered\_OE\_list

kindle\_coverage\_ana\_with\_pcd\_status\_temp

#### Define < list as below > (mandatory)

The required table structure is as follows:

***Table 4.1 Structure of < dws\_wks\_coverage\_analysis\_temp>***

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| store\_id | *String* |
| store\_name | *string* |
| wo\_name | *String* |
| start\_time | *timestamp* |
| wo\_type | *int* |
| rpr\_type\_id | *Int* |
| wo\_status\_id | *int* |
| svcre\_advisor | *String* |
| is\_rework | *Int* |
| is\_adnl | *Boolean* |
| svcre\_type\_name | *String* |
| lbr\_project\_name | *String* |
| lbr\_total | *Double* |
| parts\_total | *Double* |
| stk\_num | *String* |
| parts\_id | *String* |
| parts\_name | *String* |
| parts\_name2 | *String* |
| brand | *String* |
| stm\_brand | *String* |
| parts\_category\_name | *String* |
| ticket\_num | *String* |
| out\_qty | *Double* |
| Cost | *Double* |
| tax\_cost | *Double* |
| kld | *Double* |
| dsct | *Double* |
| act\_total | *Double* |
| grs\_profit\_amt | *Double* |
| recpt\_time | *timestamp* |
| recpt\_mon | *Double* |
| before\_dsct\_total | *Double* |
| ar\_total | *Double* |
| setl\_total | *Double* |
| receipts\_total | *Double* |
| credit\_nopay | *Double* |
| reduce\_money | *Double* |
| coupon\_money | *Double* |
| point\_score\_money | *Double* |
| pay\_type | *String* |
| coupon\_name | *String* |
| empe\_name | *String* |
| worker\_group\_name | *String* |
| sm\_adnl | *Int* |
| sm\_not\_accepted | *int* |
| is\_not\_accepted | *String* |
| book\_time | *Timestamp* |
| plan\_fnsh\_time | *timestamp* |
| cst\_name | *String* |
| cst\_mobile | *String* |
| car\_num | *String* |
| vin | *String* |
| mileage | *int* |
| doc\_crt\_time | *timestamp* |
| custom\_brand | *String* |
| custom\_line | *String* |
| custom\_modl | *String* |
| repair\_man | *String* |
| repair\_man\_mobile | *String* |
| insure\_comp | *String* |
| cst\_source\_name | *String* |
| insurance\_expires | *timestamp* |
| bsn\_insurance\_expires | *timestamp* |
| force\_expires\_date | *timestamp* |
| fvc\_rcrd\_id | *int* |
| fosch\_brand\_id | *String* |
| frand\_name | *String* |
| gnrc\_artcl\_id | *String* |
| desc\_en | *String* |
| category\_name\_cle | *String* |
| brand\_name\_cle | *String* |
| product\_line | *String* |
| cov\_flag | *Boolean* |
| level\_id | *String* |
| LID | *String* |
| manufactor | *String* |
| car\_brand | *String* |

Table 4.2 Structure of < dwd\_kindle\_coverage\_ana\_with\_pcd\_status >

|  |  |
| --- | --- |
| Column Name | Data Type |
| store\_id | *String* |
| store\_name | *string* |
| wo\_name | *String* |
| start\_time | *timestamp* |
| wo\_type | *int* |
| rpr\_type\_id | *Int* |
| wo\_status\_id | *int* |
| svcre\_advisor | *String* |
| is\_rework | *Int* |
| is\_adnl | *Boolean* |
| svcre\_type\_name | *String* |
| lbr\_project\_name | *String* |
| lbr\_total | *Double* |
| parts\_total | *Double* |
| stk\_num | *String* |
| parts\_id | *String* |
| parts\_name | *String* |
| parts\_name2 | *String* |
| brand | *String* |
| stm\_brand | *String* |
| parts\_category\_name | *String* |
| ticket\_num | *String* |
| out\_qty | *Double* |
| Cost | *Double* |
| tax\_cost | *Double* |
| kld | *Double* |
| dsct | *Double* |
| act\_total | *Double* |
| grs\_profit\_amt | *Double* |
| recpt\_time | *timestamp* |
| recpt\_mon | *Double* |
| before\_dsct\_total | *Double* |
| ar\_total | *Double* |
| setl\_total | *Double* |
| receipts\_total | *Double* |
| credit\_nopay | *Double* |
| reduce\_money | *Double* |
| coupon\_money | *Double* |
| point\_score\_money | *Double* |
| pay\_type | *String* |
| coupon\_name | *String* |
| empe\_name | *String* |
| worker\_group\_name | *String* |
| sm\_adnl | *Int* |
| sm\_not\_accepted | *int* |
| is\_not\_accepted | *String* |
| book\_time | *Timestamp* |
| plan\_fnsh\_time | *timestamp* |
| cst\_name | *String* |
| cst\_mobile | *String* |
| car\_num | *String* |
| vin | *String* |
| mileage | *int* |
| doc\_crt\_time | *timestamp* |
| custom\_brand | *String* |
| custom\_line | *String* |
| custom\_modl | *String* |
| repair\_man | *String* |
| repair\_man\_mobile | *String* |
| insure\_comp | *String* |
| cst\_source\_name | *String* |
| insurance\_expires | *timestamp* |
| bsn\_insurance\_expires | *timestamp* |
| force\_expires\_date | *timestamp* |
| fvc\_rcrd\_id | *int* |
| fosch\_brand\_id | *String* |
| frand\_name | *String* |
| gnrc\_artcl\_id | *String* |
| desc\_en | *String* |
| category\_name\_cle | *String* |
| brand\_name\_cle | *String* |
| product\_line | *String* |
| cov\_flag | *Boolean* |
| level\_id | *String* |
| LID | *String* |
| manufactor | *String* |
| car\_brand | *String* |
| pcd\_flag | *Bool* |

***Table 4.3 Structure of < dws\_kindle\_covered\_product\_line\_pcd\_na >***

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| Lever\_id | *String* |
| Category\_name\_cle | *String* |
| Product\_line | *String* |
| Manufactor | *string* |
| Car\_brand | *String* |
| qty | *Int* |

***Table 4.4 Structure*** ***of < dim\_bosch\_coverage\_lid >***

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| Product\_number | *String* |
| Product\_key | *String* |
| Source\_id | *String* |

***Table 4.5 Structure*** ***of < dws\_wks\_coverage\_analysis\_ sum >***

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| Store\_id | *Bool* |
| Store\_name | *Bool* |
| Category\_name\_cle | *String* |
| Product\_line | *Decimal* |
| Focus\_cat | *Bool* |
| Brand\_new | *String* |
| Manufactor | *String* |
| Car\_brand | *string* |
| Recpt\_mon | *Double* |
| Lever\_id | *String* |
| Cov\_flag | *Boolean* |
| Pcd\_flag | *Boolean* |
| BOSCH\_QTY | *Int* |
| NON\_BOSCH\_QTY | *Int* |
| Total\_qty | *Int* |

***Table 4.6 Structure of < dws\_wks\_coverage\_analysis\_uncovered\_levelid >***

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| Product\_line | *String* |
| category\_name\_cle | *String* |
| level\_id | *String* |
| manufactor | *String* |
| car\_brand | *String* |
| Qty | *Int* |

***Table 4.7 Structure of < dws\_uncovered\_OE\_list\_m >***

|  |  |
| --- | --- |
| **Column Name** | **Data Type** |
| Source\_id | *String* |
| Product\_line | *String* |
| OE | *String* |
| Demands | *Decimal* |
| Cov\_flag | *Bool* |
| Carparc | *Int* |
| Vehicle\_info | *String* |

#### Populate < Table Name > (mandatory)

If table has many columns, can be attached in the Appendix 1 - <Source to Target (Template)>.

*Table 5.1 Source to Target Mapping of < dwd\_kindle\_coverage\_ana\_with\_pcd\_status >*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Target Table** | | | **Source Tables** | | | |
| **Column Name** | **Description** | **Data Type** | **System** | **Table Name** | **Column Name** | **Data Type** |
| store\_id | store\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | store\_id | String |
| store\_name | store\_name | string | Datasimba | dws\_wks\_service\_record\_smy\_df | store\_name | string |
| wo\_num | wo\_num | String | Datasimba | dws\_wks\_service\_record\_smy\_df | wo\_name | String |
| start\_time | start\_time | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | start\_time | timestamp |
| wo\_type | wo\_type | int | Datasimba | dws\_wks\_service\_record\_smy\_df | wo\_type | int |
| rpr\_type\_id | rpr\_type\_id | Int | Datasimba | dws\_wks\_service\_record\_smy\_df | rpr\_type\_id | Int |
| wo\_status\_id | wo\_status\_id | int | Datasimba | dws\_wks\_service\_record\_smy\_df | wo\_status\_id | int |
| svcre\_advisor | svcre\_advisor | String | Datasimba | dws\_wks\_service\_record\_smy\_df | svcre\_advisor | String |
| is\_rework | is\_rework | Int | Datasimba | dws\_wks\_service\_record\_smy\_df | is\_rework | Int |
| is\_adnl | is\_adnl | Boolean | Datasimba | dws\_wks\_service\_record\_smy\_df | is\_adnl | Boolean |
| svcre\_type\_name | svcre\_type\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | svcre\_type\_name | String |
| lbr\_project\_name | lbr\_project\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | lbr\_project\_name | String |
| lbr\_total | lbr\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | lbr\_total | Double |
| parts\_total | parts\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | parts\_total | Double |
| stk\_num | stk\_num | String | Datasimba | dws\_wks\_service\_record\_smy\_df | stk\_num | String |
| parts\_id | parts\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | parts\_id | String |
| parts\_name | parts\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | parts\_name | String |
| parts\_name2 | parts\_name2 | String | Datasimba | dws\_wks\_service\_record\_smy\_df | parts\_name2 | String |
| brand | brand | String | Datasimba | dws\_wks\_service\_record\_smy\_df | brand | String |
| stm\_brand | stm\_brand | String | Datasimba | dws\_wks\_service\_record\_smy\_df | stm\_brand | String |
| parts\_category\_name | parts\_category\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | parts\_category\_name | String |
| ticket\_num | ticket\_num | String | Datasimba | dws\_wks\_service\_record\_smy\_df | ticket\_num | String |
| out\_qty | out\_qty | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | out\_qty | Double |
| Cost | Cost | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | Cost | Double |
| tax\_cost | tax\_cost | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | tax\_cost | Double |
| kld | kld | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | kld | Double |
| dsct | dsct | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | dsct | Double |
| act\_total | act\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | act\_total | Double |
| grs\_profit\_amt | grs\_profit\_amt | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | grs\_profit\_amt | Double |
| recpt\_time | recpt\_time | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | recpt\_time | timestamp |
| recpt\_mon | substring(recpt\_time, 1, 7) | string | Datasimba | dws\_wks\_service\_record\_smy\_df | recpt\_mon | string |
| before\_dsct\_total | before\_dsct\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | before\_dsct\_total | Double |
| ar\_total | ar\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | ar\_total | Double |
| setl\_total | setl\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | setl\_total | Double |
| receipts\_total | receipts\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | receipts\_total | Double |
| credit\_nopay | credit\_nopay | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | credit\_nopay | Double |
| reduce\_money | reduce\_money | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | reduce\_money | Double |
| coupon\_money | coupon\_money | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | coupon\_money | Double |
| point\_score\_money | point\_score\_money | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | point\_score\_money | Double |
| pay\_type | pay\_type | String | Datasimba | dws\_wks\_service\_record\_smy\_df | pay\_type | String |
| coupon\_name | coupon\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | coupon\_name | String |
| empe\_name | empe\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | empe\_name | String |
| worker\_group\_name | worker\_group\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | worker\_group\_name | String |
| sm\_adnl | sm\_adnl | Int | Datasimba | dws\_wks\_service\_record\_smy\_df | sm\_adnl | Int |
| sm\_not\_accepted | sm\_not\_accepted | int | Datasimba | dws\_wks\_service\_record\_smy\_df | sm\_not\_accepted | int |
| is\_not\_accepted | is\_not\_accepted | String | Datasimba | dws\_wks\_service\_record\_smy\_df | is\_not\_accepted | String |
| book\_time | book\_time | Timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | book\_time | Timestamp |
| plan\_fnsh\_time | plan\_fnsh\_time | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | plan\_fnsh\_time | timestamp |
| cst\_name | cst\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | cst\_name | String |
| cst\_mobile | cst\_mobile | String | Datasimba | dws\_wks\_service\_record\_smy\_df | cst\_mobile | String |
| car\_num | car\_num | String | Datasimba | dws\_wks\_service\_record\_smy\_df | car\_num | String |
| vin | vin | String | Datasimba | dws\_wks\_service\_record\_smy\_df | vin | String |
| mileage | mileage | int | Datasimba | dws\_wks\_service\_record\_smy\_df | mileage | int |
| doc\_crt\_time | doc\_crt\_time | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | doc\_crt\_time | timestamp |
| custom\_brand | custom\_brand | String | Datasimba | dws\_wks\_service\_record\_smy\_df | custom\_brand | String |
| custom\_line | custom\_line | String | Datasimba | dws\_wks\_service\_record\_smy\_df | custom\_line | String |
| custom\_modl | custom\_modl | String | Datasimba | dws\_wks\_service\_record\_smy\_df | custom\_modl | String |
| repair\_man | repair\_man | String | Datasimba | dws\_wks\_service\_record\_smy\_df | repair\_man | String |
| repair\_man\_mobile | repair\_man\_mobile | String | Datasimba | dws\_wks\_service\_record\_smy\_df | repair\_man\_mobile | String |
| insure\_comp | insure\_comp | String | Datasimba | dws\_wks\_service\_record\_smy\_df | insure\_comp | String |
| cst\_source\_name | cst\_source\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | cst\_source\_name | String |
| insurance\_expires | insurance\_expires | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | insurance\_expires | timestamp |
| bsn\_insurance\_expires | bsn\_insurance\_expires | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | bsn\_insurance\_expires | timestamp |
| force\_expires\_date | force\_expires\_date | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | force\_expires\_date | timestamp |
| fvc\_rcrd\_id | fvc\_rcrd\_id | int | Datasimba | dws\_wks\_service\_record\_smy\_df | fvc\_rcrd\_id | int |
| fosch\_brand\_id | fosch\_brand\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | fosch\_brand\_id | String |
| frand\_name | frand\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | frand\_name | String |
| gnrc\_artcl\_id | gnrc\_artcl\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | gnrc\_artcl\_id | String |
| desc\_en | desc\_en | String | Datasimba | dws\_wks\_service\_record\_smy\_df | desc\_en | String |
| category\_name\_cle | when category\_name\_cle = 'CGPAB Other' then 'Brake fluid' else category\_name\_cle | String | Datasimba | dws\_wks\_service\_record\_smy\_df | category\_name\_cle | String |
| brand\_name\_cle | brand\_name\_cle | String | Datasimba | dws\_wks\_service\_record\_smy\_df | brand\_name\_cle | String |
| product\_line | product\_line | String | Datasimba | dim\_wks\_vin\_level\_id; ods\_spiderb\_sys\_part\_application\_df;  ods\_spiderb\_sys\_main\_vehicle\_basic\_df | product\_line | String |
| cov\_flag | If the product category in the repair record matches existing products, then the value is 1, otherwise the value is 0 | Boolean | Datasimba | dws\_wks\_service\_record\_smy\_df;  ods\_spiderb\_sys\_productline\_df | category\_name\_cle ;  name | String |
| level\_id | level\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | level\_id | String |
| LID | LID | String | Datasimba | ods\_spiderb\_sys\_main\_vehicle\_basic\_df | Remark\_id | String |
| manufactor | manufactor | String | Datasimba | ods\_spiderb\_sys\_main\_vehicle\_basic\_df | manufactor | String |
| car\_brand | car\_brand | String | Datasimba | ods\_spiderb\_sys\_main\_vehicle\_basic\_df | brand | String |

*Table 5.2 Source to Target Mapping of < dwd\_kindle\_coverage\_ana\_with\_pcd\_status  >*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Target Table** | | | **Source Tables** | | | |
| **Column Name** | **Description** | **Data Type** | **System** | **Table Name** | **Column Name** | **Data Type** |
| store\_id | store\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | store\_id | String |
| store\_name | store\_name | string | Datasimba | dws\_wks\_service\_record\_smy\_df | store\_name | string |
| wo\_num | wo\_num | String | Datasimba | dws\_wks\_service\_record\_smy\_df | wo\_name | String |
| start\_time | start\_time | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | start\_time | timestamp |
| wo\_type | wo\_type | int | Datasimba | dws\_wks\_service\_record\_smy\_df | wo\_type | int |
| rpr\_type\_id | rpr\_type\_id | Int | Datasimba | dws\_wks\_service\_record\_smy\_df | rpr\_type\_id | Int |
| wo\_status\_id | wo\_status\_id | int | Datasimba | dws\_wks\_service\_record\_smy\_df | wo\_status\_id | int |
| svcre\_advisor | svcre\_advisor | String | Datasimba | dws\_wks\_service\_record\_smy\_df | svcre\_advisor | String |
| is\_rework | is\_rework | Int | Datasimba | dws\_wks\_service\_record\_smy\_df | is\_rework | Int |
| is\_adnl | is\_adnl | Boolean | Datasimba | dws\_wks\_service\_record\_smy\_df | is\_adnl | Boolean |
| svcre\_type\_name | svcre\_type\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | svcre\_type\_name | String |
| lbr\_project\_name | lbr\_project\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | lbr\_project\_name | String |
| lbr\_total | lbr\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | lbr\_total | Double |
| parts\_total | parts\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | parts\_total | Double |
| stk\_num | stk\_num | String | Datasimba | dws\_wks\_service\_record\_smy\_df | stk\_num | String |
| parts\_id | parts\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | parts\_id | String |
| parts\_name | parts\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | parts\_name | String |
| parts\_name2 | parts\_name2 | String | Datasimba | dws\_wks\_service\_record\_smy\_df | parts\_name2 | String |
| brand | brand | String | Datasimba | dws\_wks\_service\_record\_smy\_df | brand | String |
| stm\_brand | stm\_brand | String | Datasimba | dws\_wks\_service\_record\_smy\_df | stm\_brand | String |
| parts\_category\_name | parts\_category\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | parts\_category\_name | String |
| ticket\_num | ticket\_num | String | Datasimba | dws\_wks\_service\_record\_smy\_df | ticket\_num | String |
| out\_qty | out\_qty | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | out\_qty | Double |
| Cost | Cost | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | Cost | Double |
| tax\_cost | tax\_cost | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | tax\_cost | Double |
| kld | kld | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | kld | Double |
| dsct | dsct | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | dsct | Double |
| act\_total | act\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | act\_total | Double |
| grs\_profit\_amt | grs\_profit\_amt | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | grs\_profit\_amt | Double |
| recpt\_time | recpt\_time | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | recpt\_time | timestamp |
| recpt\_mon | substring(recpt\_time, 1, 7) | string | Datasimba | dws\_wks\_service\_record\_smy\_df | recpt\_mon | string |
| before\_dsct\_total | before\_dsct\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | before\_dsct\_total | Double |
| ar\_total | ar\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | ar\_total | Double |
| setl\_total | setl\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | setl\_total | Double |
| receipts\_total | receipts\_total | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | receipts\_total | Double |
| credit\_nopay | credit\_nopay | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | credit\_nopay | Double |
| reduce\_money | reduce\_money | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | reduce\_money | Double |
| coupon\_money | coupon\_money | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | coupon\_money | Double |
| point\_score\_money | point\_score\_money | Double | Datasimba | dws\_wks\_service\_record\_smy\_df | point\_score\_money | Double |
| pay\_type | pay\_type | String | Datasimba | dws\_wks\_service\_record\_smy\_df | pay\_type | String |
| coupon\_name | coupon\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | coupon\_name | String |
| empe\_name | empe\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | empe\_name | String |
| worker\_group\_name | worker\_group\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | worker\_group\_name | String |
| sm\_adnl | sm\_adnl | Int | Datasimba | dws\_wks\_service\_record\_smy\_df | sm\_adnl | Int |
| sm\_not\_accepted | sm\_not\_accepted | int | Datasimba | dws\_wks\_service\_record\_smy\_df | sm\_not\_accepted | int |
| is\_not\_accepted | is\_not\_accepted | String | Datasimba | dws\_wks\_service\_record\_smy\_df | is\_not\_accepted | String |
| book\_time | book\_time | Timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | book\_time | Timestamp |
| plan\_fnsh\_time | plan\_fnsh\_time | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | plan\_fnsh\_time | timestamp |
| cst\_name | cst\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | cst\_name | String |
| cst\_mobile | cst\_mobile | String | Datasimba | dws\_wks\_service\_record\_smy\_df | cst\_mobile | String |
| car\_num | car\_num | String | Datasimba | dws\_wks\_service\_record\_smy\_df | car\_num | String |
| vin | vin | String | Datasimba | dws\_wks\_service\_record\_smy\_df | vin | String |
| mileage | mileage | int | Datasimba | dws\_wks\_service\_record\_smy\_df | mileage | int |
| doc\_crt\_time | doc\_crt\_time | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | doc\_crt\_time | timestamp |
| custom\_brand | custom\_brand | String | Datasimba | dws\_wks\_service\_record\_smy\_df | custom\_brand | String |
| custom\_line | custom\_line | String | Datasimba | dws\_wks\_service\_record\_smy\_df | custom\_line | String |
| custom\_modl | custom\_modl | String | Datasimba | dws\_wks\_service\_record\_smy\_df | custom\_modl | String |
| repair\_man | repair\_man | String | Datasimba | dws\_wks\_service\_record\_smy\_df | repair\_man | String |
| repair\_man\_mobile | repair\_man\_mobile | String | Datasimba | dws\_wks\_service\_record\_smy\_df | repair\_man\_mobile | String |
| insure\_comp | insure\_comp | String | Datasimba | dws\_wks\_service\_record\_smy\_df | insure\_comp | String |
| cst\_source\_name | cst\_source\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | cst\_source\_name | String |
| insurance\_expires | insurance\_expires | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | insurance\_expires | timestamp |
| bsn\_insurance\_expires | bsn\_insurance\_expires | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | bsn\_insurance\_expires | timestamp |
| force\_expires\_date | force\_expires\_date | timestamp | Datasimba | dws\_wks\_service\_record\_smy\_df | force\_expires\_date | timestamp |
| fvc\_rcrd\_id | fvc\_rcrd\_id | int | Datasimba | dws\_wks\_service\_record\_smy\_df | fvc\_rcrd\_id | int |
| fosch\_brand\_id | fosch\_brand\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | fosch\_brand\_id | String |
| frand\_name | frand\_name | String | Datasimba | dws\_wks\_service\_record\_smy\_df | frand\_name | String |
| gnrc\_artcl\_id | gnrc\_artcl\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | gnrc\_artcl\_id | String |
| desc\_en | desc\_en | String | Datasimba | dws\_wks\_service\_record\_smy\_df | desc\_en | String |
| category\_name\_cle | when category\_name\_cle = 'CGPAB Other' THEN 'Brake fluid'  else category\_name\_cle | String | Datasimba | dws\_wks\_service\_record\_smy\_df | category\_name\_cle | String |
| brand\_name\_cle | brand\_name\_cle | String | Datasimba | dws\_wks\_service\_record\_smy\_df | brand\_name\_cle | String |
| product\_line | product\_line | String | Datasimba | dim\_wks\_vin\_level\_id; ods\_spiderb\_sys\_part\_application\_df;  ods\_spiderb\_sys\_main\_vehicle\_basic\_df | product\_line | String |
| cov\_flag | If the product category in the repair record matches existing products, then the value is 1, otherwise the value is 0 | Boolean | Datasimba | dws\_wks\_service\_record\_smy\_df;  ods\_spiderb\_sys\_productline\_df | category\_name\_cle ;  name | String |
| level\_id | level\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | level\_id | String |
| LID | Max(level\_id) | String | Datasimba | dim\_wks\_vin\_level\_id | Level\_id | String |
| manufactor | manufactor | String | Datasimba | ods\_spiderb\_sys\_main\_vehicle\_basic\_df | manufactor | String |
| car\_brand | car\_brand | String | Datasimba | ods\_spiderb\_sys\_main\_vehicle\_basic\_df | brand | String |
| Pcd\_flag | Defined as case when a.pcd\_status='01' then 1 else 0, finally taking the maximum value.  Indicate if the PN is on sale in PCD system | boolean | Datasimba | ods\_spiderb\_calc\_product\_res\_df | Pcd\_status | string |

*Table 5.3 Source to Target Mapping of < dwd**\_covered\_product\_line\_pcd\_na  >*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Target Table** | | | **Source Tables** | | | |
| **Column Name** | **Description** | **Data Type** | **System** | **Table Name** | **Column Name** | **Data Type** |
| category\_name\_cle | category\_name\_cle | String | Datasimba | dws\_wks\_service\_record\_smy\_df | category\_name\_cle | String |
| product\_line | product\_line | String | Datasimba | dim\_wks\_vin\_level\_id; ods\_spiderb\_sys\_part\_application\_df;  ods\_spiderb\_sys\_main\_vehicle\_basic\_df | product\_line | String |
| level\_id | level\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | level\_id | String |
| manufactor | manufactor | String | Datasimba | dim\_wks\_vin\_level\_id | manufactor | String |
| car\_brand | car\_brand | String | Datasimba | dim\_wks\_vin\_level\_id | brand | String |
| qty | qty | double | Datasimba | dws\_wks\_service\_record\_smy\_df | out\_qty | double |

*Table 5.3 Source to Target Mapping of < dim\_bosch\_coverage\_lid >*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Target Table** | | | **Source Tables** | | | |
| **Column Name** | **Description** | **Data Type** | **System** | **Table Name** | **Column Name** | **Data Type** |
| Product\_number | P/N（10.DIG） | String | Datasimba | ods\_spiderb\_sys\_part\_application\_df | Product\_number | String |
| Product\_key | Product\_key | String | Datasimba | ods\_spiderb\_sys\_part\_application\_df | Product\_key | String |
| Source\_id | Source number, including from Liyang, specific source differentiation, in coding design | String | Datasimba | ods\_spiderb\_sys\_vehicle\_other2\_df | Source\_id | String |

*Table 5.4 Source to Target Mapping of < dws\_wks\_coverage\_analysis\_ sum >*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Target Table** | | | **Source Tables** | | | |
| **Column Name** | **Description** | **Data Type** | **System** | **Table Name** | **Column Name** | **Data Type** |
| Store\_id | Store\_id | Bool | Datasimba | dws\_wks\_service\_record\_smy\_df;  ods\_spiderb\_sys\_productline\_df | Store\_id | String |
| Store\_name | Store\_name | Bool | Datasimba | ods\_spiderb\_calc\_product\_res\_df | Store\_name | String |
| Category\_name\_cle | Category\_name\_cle | String | Datasimba | ods\_spiderb\_sys\_vehicle\_other2\_df | Category\_name\_cle | String |
| Product\_line | Evaluation of the degree of demand for a product | Decimal | Datasimba | dws\_wks\_service\_record\_smy\_df;  ods\_spiderb\_sys\_vehicle\_other2\_df | Product\_line | String;double |
| Focus\_cat | case when  category\_name\_cle in ('Engine Oil','Battery','Transmission oil','Oil filter','Spark plug','Cabin filter','Air filter','Brake disk Rr','Brake pad fr','Brake pad rr','Wiper','Brake fluid','Brake disk fr','Fuel filter','Steering Gear','Ignition Coil','Injector','Lambda sensor','Steering Pump','High-pressure pump GDI','CG-PAB Other')  then 1 else 0 | Bool | Datasimba | dws\_wks\_service\_record\_smy\_df | category\_name\_cle | String |
| Brand\_new | case when  brand\_name\_cle='博世' then 'BOSCH' else 'NON\_BOSCH' | string |  |  | Brand\_name | string |
| Manufactor | Manufactor | string | Datasimba | dim\_wks\_vin\_level\_id | Manufactor | string |
| Car\_brand | Car\_brand | string | Datasimba | dim\_wks\_vin\_level\_id | brand | string |
| Recpt\_mon | Recpt\_mon | string | Datasimba | dim\_wks\_vin\_level\_id | Recpt\_mon | string |
| Lever\_id | Lever\_id | string | Datasimba | dim\_wks\_vin\_level\_id | lid | string |
| Cov\_flag | case when category\_name\_cle in ('Brake fluid','CG-PAB Other') then 1 else max(cov\_flag) | Boolean | Datasimba | dws\_wks\_service\_record\_smy\_df;  ods\_spiderb\_sys\_productline\_df | category\_name\_cle ;  name | Boolean |
| Pcd\_flag | case when category\_name\_cle in ('Brake fluid','CG-PAB Other') then 1 else max(PCD\_FLAG)  Indicate if the PN is on sale in PCD system | Boolean | Datasimba | dim\_wks\_vin\_level\_id | Category\_name\_cle | Boolean |
| BOSCH\_QTY | case when brand\_name\_cle=='博世' then sum(out\_qty) else 0 | String | Datasimba | dim\_wks\_vin\_level\_id | Brand\_name | String |
| NON\_BOSCH\_QTY | case when brand\_name\_cle<>'博世' then sum(out\_qty) else 0 | String | Datasimba | dim\_wks\_vin\_level\_id | Brand\_name | String |
| Total\_qty | SUM(cast(out\_qty as double)) | double | Datasimba | dws\_wks\_service\_record\_smy\_df | Out\_qty | double |

*Table 5.5 Source to Target Mapping of < dws\_wks\_coverage\_analysis\_uncovered\_levelid>*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Target Table** | | | **Source Tables** | | | |
| **Column Name** | **Description** | **Data Type** | **System** | **Table Name** | **Column Name** | **Data Type** |
| Product\_line | Product\_line | string | Datasimba | ods\_spiderb\_sys\_productline\_df | product\_line | String |
| category\_name\_cle | category\_name\_cle | String | Datasimba | dws\_wks\_service\_record\_smy\_df | category\_name\_cle | String |
| level\_id | level\_id | String | Datasimba | dws\_wks\_service\_record\_smy\_df | level\_id | String |
| manufactor | manufactor | String | Datasimba | dim\_wks\_vin\_level\_id | manufactor | String |
| car\_brand | car\_brand | String | Datasimba | dim\_wks\_vin\_level\_id | brand | String |
| qty | qty | double | Datasimba | dws\_wks\_service\_record\_smy\_df | out\_qty | double |

*Table 5.6 Source to Target Mapping of < dws\_uncovered\_OE\_list\_m >*

Monthly update to select top 10 OEs (based on the rolling past 24 month data) for each product line and historical selected OE need to be removed. And final output is top 10 OE for each product line, ranking by FRC demands.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Target Table** | | | **Source Tables** | | | |
| **Column Name** | **Description** | **Data Type** | **System** | **Table Name** | **Column Name** | **Data Type** |
| Source\_id | Source\_id | string | string | ods\_spiderb\_sys\_vehicle\_other2\_df | Source\_id | string |
| Product\_line | Product\_line | string | Datasimba | ods\_spiderb\_sys\_vehicle\_other2\_df | The values are as follows:PL028、PL026、PL014、PL015 PL016、PL017、PL029、PL022、 PL024、 PL018、 PL019 、PL027 | String |
| OE | translate(split(split(split(temp\_col,'\\(')[0],'\\)')[0],'\\.')[0],'\\ ','\\')  and  explode(split(ofo,'\\|')) temp as temp\_col | String | Datasimba | ods\_spiderb\_sys\_vehicle\_other2\_df | Different parts categories require reference to different OE number indicators, as detailed in the attachment | String |
| Demands | qty/oe\_count  (oe\_count= count(distinct oe) | Decimal | Datasimba | dws\_wks\_service\_record\_smy\_df;  ods\_spiderb\_sys\_vehicle\_other2\_df | ofo;out\_qty | String;double |
| Cov\_flag | If the product category in the repair record matches existing products, then the value is 1, otherwise the value is 0 | Boolean | Datasimba | dws\_wks\_service\_record\_smy\_df;  ods\_spiderb\_sys\_productline\_df | category\_name\_cle ;  name | String |
| Carparc | Car population | Double | Datasimba | ods\_spiderb\_sys\_main\_vehicle\_population\_df | population\_2018 |  |
| Vehicle\_info | concat(a.manufactor,a.brand,a.vehicle\_type,a.sales\_name) as vehicle\_info | string | Datasimba | ods\_spiderb\_sys\_main\_vehicle\_basic\_df | manufactor,  brand,  vehicle\_type,  sales\_name |  |

# Non-functional Requirements

This section addresses non-functional requirements not associated with specific business functions but that must be met for project success.

* Sync with WSMS data and refresh daily

## Non-functional Affected Areas

The following tables delineate whether or not specific non-functional areas relating to are/are not impacted by the implementation of this project.

*Table 7. Affected Non-functional Considerations*

| Area | Description | Affected (Yes or No) | Manner Affected |
| --- | --- | --- | --- |
| *Data Retention* | *\*\* Consult with Technical Lead and/or Architect* |  |  |
| *System Logging* | *\*\* Note: To be addressed with the Architect* |  |  |
| *Disaster Recovery* | *\*\* Note: To be addressed with the Architect* |  |  |
|  |  |  |  |

## Performance Requirements

Document requirements related to the speed of response, scalability, throughput, execution time and storage capacity.

## Usability Requirements

Document requirements related to the ease of use and understandability of the system for the end-users.

## Security Requirements (mandatory)

This section documents requirements related to the protection of the data from unauthorized access. This includes but is not limited to the followings:

1. Authorization from the data owner is required to access data.
2. Data permission should be assigned based on user roles.
3. Provide a list of data which must be stored or displayed in an encrypted form.
4. The data should be classified, and it is mandatory to review the classification with DSP.

*Table 8. Data Classification*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Business Object** | **Data Fields** | **Personal-related Data**  **(Yes/No)** | **C-SC Security Class** | **I-SC Security**  **Class** | **A-SC**  **Security**  **Class** |
| *Example:* | *all* | *No* | *1* | *1* | *1* |
|  |  |  |  |  |  |

## Legal Requirements (mandatory)

The source and use of data must comply with legal requirements. This includes but is not limited to the followings:

1. Personal Information Protection Law should be obeyed when personal information is involved.
2. Provisions on the Administration of Algorithm Recommendation of Internet Information Services must be abided by, when the requirement includes algorithm recommendation services.

# Project Impact Considerations

## Project Assumptions

The following assumptions have been made for this project:

* <Assumption 1>.
* <Assumption 2>.
* <Assumption Etc.>.

## Project Constraints

The following constraints are associated with the delivery of this project:

* <Constraint 1>.
* <Constraint 2>.
* <Constraint, etc.>.

## Project Risks

The following risks have been identified during this phase of this project:

* <Risk 1>.
* <Risk 2>.
* <Risk, etc.>.

# Appendix

The following documents provide supporting information for this project:

* Appendix 1 - <Source to ods\_spiderb\_sys\_vehicle\_other2\_df >



* <Appendix 2> - <Name of Document 2>

<Attached Document 2>

* <Appendix, etc.> - <Name of Document, etc.>

<Attached Document, etc.>