Hexhibit- Process Specification Document

**Process -** Repeat Customer and Cross-sell/ up-sell computation

**Version Management:**

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# Introduction

This document describes the requirements, assumptions, business rules and transformations for the developing of the ETL process for Repeat customer cross sell and upsell identification and marking.

# Objective and Content

The Objective of this document is to explain the table structures of the source table and target table to be used by Data Services.

The document consists of the ETL mapping of the source tables and target tables with specific rules and exceptions.

* **Source Data Mapping**: Describes the tables of the Source schema and special data handling required for each table.
* Data mapping with the referenced tables.

# Source Data Mapping

The high-level assumptions and approach to extraction, transformation and loading (ETL) of source data into the Hexhibit Data Mart (HDM) and the brief description of each tables is described below.

# Source Table Structure

1. HI\_FINANCED\_AMOUNT\_DAILY

Table contains information related to Loan amount applied by the customer for that product to the Bank. This table may contain multiple application number since the customer can have multiple products on single application or multiple applications for different/ same products.

|  |  |  |  |
| --- | --- | --- | --- |
| # | Column Name | Data Type | Comments |
| 1 | APPLICATION\_NUMBER | NUMBER(8,0) | Application Number of the customer |
| 2 | SCHEMEID | VARCHAR2(50 BYTE) | Scheme Id |
| 3 | CURRENCY | VARCHAR2(50 BYTE) | Currency Type |
| 4 | AMOUNT | NUMBER(16,2) | Amount (Loan Amount) |
| 5 | PRODUCT\_CODE | VARCHAR2(50 BYTE) | Product Code |
| 6 | FACILITY\_CODE | VARCHAR2(50 BYTE) | Facility Code |
| 7 | PRODUCTSUBTYPE\_CODE | VARCHAR2(50 BYTE) | Product Sub Type |
| 8 | CR\_DT | DATE | Created Date |
| 9 | CR\_ID | VARCHAR2(12 BYTE) | Created Id |
| 10 | ORG\_ID | NUMBER(8,0) | Organization Id |

1. HI\_CUSTOMER\_DEMOGRAHICS

Table contains information related to customer demographics like age, salary etc. In this table, we can consider CIFID as the primary key for that application (COMP\_APPL\_ID is equal to APPLICATION\_NUMBER in above table). This table may also contain multiple entries for same CIFIDs since an application can have multiple customer say primary customer, co-applicant, guarantor etc., and there can one customer with multiple applications for same/ different products.

|  |  |  |  |
| --- | --- | --- | --- |
| # | Column Name | Data Type | Comments |
| 1 | CIFID | NUMBER(16,0) | Unique Cifid |
| 2 | COMP\_APPL\_ID | NUMBER(16,0) | Application Number of the customer |
| 3 | CUSTOMERID | NUMBER(16,0) | Unique Customer Id |
| 4 | EMP\_TYPE | VARCHAR2(4000 BYTE) | Employment Type of the Customer |
| 5 | NET\_INCOME | NUMBER(21,2) | Net Income of the Customer |
| 6 | NET\_OTHERINCOME | NUMBER(21,2) | Net Other Income of the Customer |
| 7 | DOBDOI | DATE | Date of Birth |
| 8 | BUSS\_ACTY | VARCHAR2(4000 BYTE) | Business Activity |
| 9 | SECTOR | VARCHAR2(4000 BYTE) | Customer Business Sector |
| 10 | CUST\_CATG | VARCHAR2(4000 BYTE) | Customer Category Status |
| 11 | DESIGNATION | VARCHAR2(4000 BYTE) | Customer Designation |
| 12 | RELATION | VARCHAR2(4000 BYTE) | Relationship with Primary Customer |
| 13 | INDUSTRY | VARCHAR2(4000 BYTE) | Customer’s Company Name |
| 14 | AGE | NUMBER(3,0) | Age of the Customer |
| 15 | NO\_OF\_DEPENDENTS | NUMBER(2,0) | No of Dependents of the customer |
| 16 | SEX | VARCHAR2(4000 BYTE) | Customer’s Sex |
| 17 | INDVCORPFLAG | VARCHAR2(4 BYTE) | Whether Customer is Individual / Corporate Customer |
| 18 | GUAR\_COAP\_FLAG | VARCHAR2(4 BYTE) | Whether Customer is Primary / Secondary Customer |
| 19 | LOCATION | VARCHAR2(4000 BYTE) | Customer’s Current Location |
| 20 | RELATIONSHIP\_SINCE | DATE | Customer’s Relation Ship with Bank |
| 21 | CURR | VARCHAR2(3 BYTE) | Currency Type |
| 22 | CREDITSCORE | VARCHAR2(12 BYTE) | Credit Score of the Customer |
| 23 | AGE\_BRACKET | VARCHAR2(100 BYTE) | Customer’s Age Bracket |
| 24 | INCOME\_BRACKET | VARCHAR2(100 BYTE) | Customer’s Income Bracket |
| 25 | OVERRIDE\_STATUS | VARCHAR2(50 BYTE) | Override Status (For Credit Scorecard related computation) |

# Process

Here we are considering two source tables: **HI\_FINANCED\_AMOUNT\_DAILY** & **HI\_CUSTOMER\_DEMOGRAHICS.**

In the table **HI\_CUSTOMER\_DEMOGRAHICS** identify customers (CIFID) repeated for different applications (comp\_appl\_id) - customer can be primary customer in one application and might also be co-applicant in another application.

If the customer is getting repeated more than once then that customer will be Repeat Customer.

Once a repeat customer is identified those applications (comp\_appl\_id) to be scanned in **HI\_FINANCED\_AMOUNT\_DAILY for that application (Application\_number).**

**For those applications, check the product/s and subproduct/s. If the repeat customer has opted for same product then it’s an UP-SELL else if the customer has opted for a different product then the earlier application (application date) then it’s a CROSS-SELL.**

* **Once identified the same needs to be updated in the target table called** HI\_REPEAT\_COUNT as described below.
* **Target Table Structure:** HDM\_CUSTOMER\_BEHAVIOUR

|  |  |  |
| --- | --- | --- |
| **Column Name** | **Type** | **Comments** |
| CIFID | NUMBER | Insert the repeat customer CIF ID |
| First\_Purchase\_Date | Date | Date on which the customer made the first approved order. |
| Last\_purchase\_Date | **Date** | Date on which the customer made the last approved order. |
| REPEAT\_CUSTOMER | VARCHAR2(100 BYTE) | Mark repeat customer ‘R’ |
| UPSELL | VARCHAR2(100 BYTE) | U for upsell customer |
| PRODUCT | VARCHAR2(100 BYTE) | Main product (first time application) |
| SUBPRODUCT | VARCHAR2(100 BYTE) | Sub Product |
| Product\_Sq | VARCHAR2(100 BYTE) | Sequence of products description purchased  example(Home Loan\*Credit Card\*Personal Loan) |
| Subproduct\_Sq | VARCHAR2(100 BYTE) | Sequence of subproducts description purchased  example(Repair\*SignatureCard\*Personal Loan) |
| TOTAL\_AMOUNT | NUMBER | Total Amount value of the customer |
| TOTAL\_APP\_COUNT | NUMBER | Total Number of the application count of the customer |

# Business Rules

1. An application should be either Primary or Co-applicant (GUAR\_COAP\_FLAG in ‘P’ or ‘C’) it should not be any other application flag in GUAR\_COAP\_FLAG column.
2. An application status should not be Rejected, or Work In Progress it should be completed in HI\_WORKFLOW\_OVERALL

Condition for =>STAGE\_CATEGORY, STAGE\_STATUS of HI\_APP\_WORKFLOW\_OVERALL

where stage\_status in (‘C’) and stage\_category in(‘OFFER PROCESS ‘).

1. An application should have completed offer process stage.
2. Consider each application number once for repeat customer computation.
3. Process End Date should be consider for the application processing.

# Desired Result

A table should be created where we will be able to view the below functionality:

1. If the customer is getting repeated for the different application, we need to mark it as “Repeated Customer”.
2. We need to store the customer’s first product, first subproduct to identify which is the product through which he/she became a customer...
3. We need to store all the products, and subproducts purchased from the organization by that customer. So that there will be history of what the customer has as products did he/she. Each product separated by ‘\*’.
4. We need to compare the different products of the customer and store whether the customer is Cross sell customer or an Up Sell customer.

(Cross Sell customer is the customer who will have first product as Home Loan and in the nest application has opted for Credit Card product. Up sell customer is the customer who will have Home Loan as first product and his first subproduct say Construction of New Home, and then he comes back again for same Product that is Home Loan, but different sub product that is repairing of the Old House.)