PROJECT REPORT

Private Banking

Group members :

- ABIDLI Sarah
- BENHAJ MINYAOUI Mustapha
- BENSALAH Slim
- BOUKHAYATIYA Oumayma
- CHEBBI Dhia
- SLATNIA Wassim

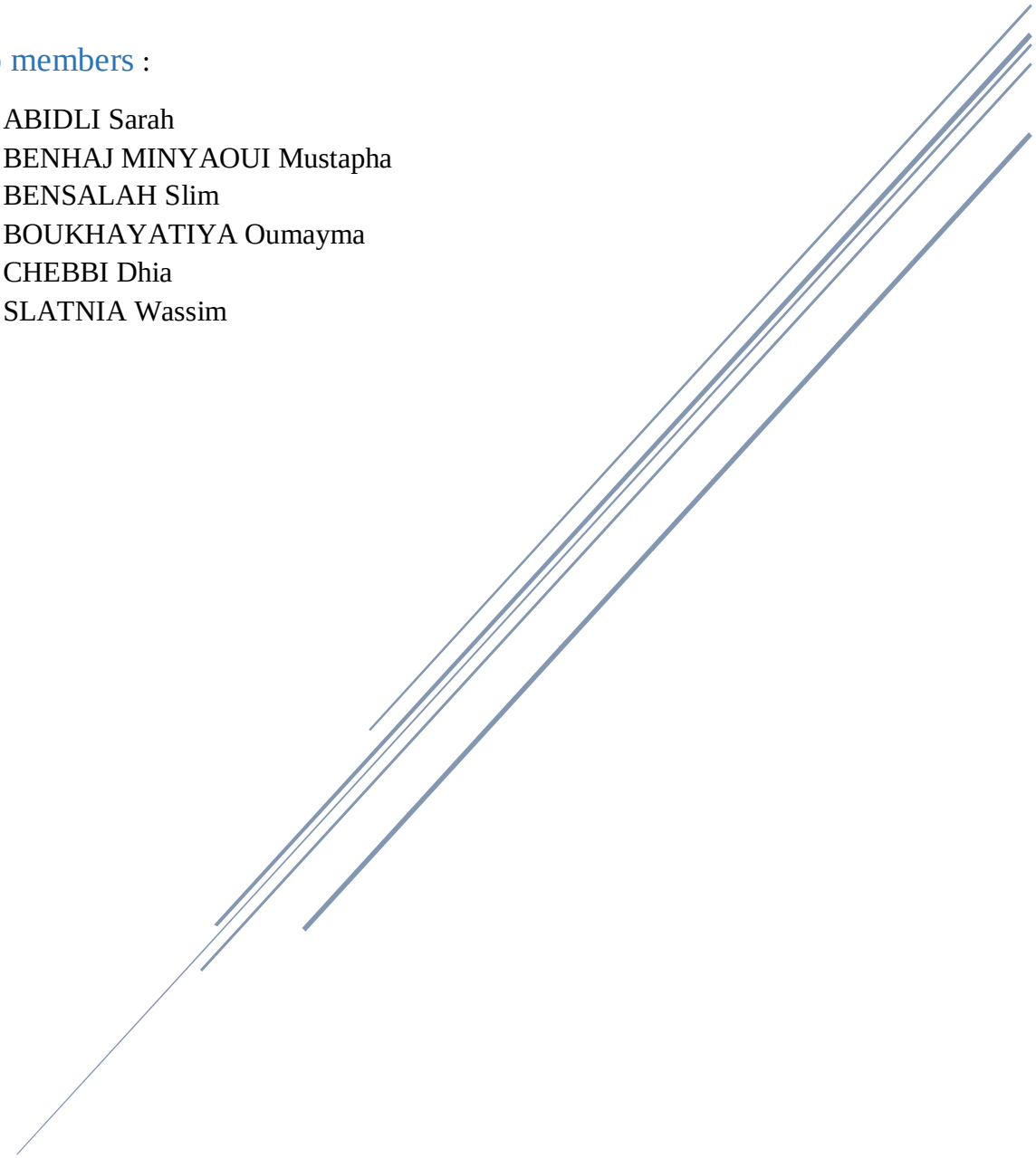


Table des matières

Table of figures

I. Introduction

In this data-driven world, Data Analytics has become vital in the decision-making processes in the Banking and Financial Services Industry. Investment banking and other businesses wherein, real-time information is used, volume, as well as the velocity of data, has become critical factors.

To improve the relationship between companies and their customers many types of solutions have been created that includes all the devices or marketing or support operations aimed at optimizing the quality of the customer relationship, to retain and maximize the number of customers, and margin per customer. For this purpose, during this semester we are going to develop a solution that provides to "ODDO BHF" the possibility to know more their customers, target new clients and increase the turnover.

We will see through this report in a first part, a presentation of the project context as well as these Business objectives. Then in a second part, data source identification and system architecture. Then, in a third part, we will see the schema of the data warehouse.

II. Project Context

1. Presentation of the company

ODDO BHF is an independent Franco-German financial services group, with a history stretching back over 150 years. It was created from the alliance of a French family-owned business built up by five generations of stockbrokers and a German bank specializing in "Mittelstand" companies. ODDO BHF operates in three main businesses, based on significant investment in market expertise: private banking, asset management and corporate and investment banking. The Group has a specific ownership structure as 60% of its capital is held by the Oddo family and 30 % by employees.

2. Project context

The project (the solution) that we are going to develop during this semester will provide to "Private Wealth Management administration" the possibility to better understand the client and their behaviors as well as identify hidden opportunities. Also optimize customer services and its satisfaction. Our mission will be to do some predictions on oddo's clients by analyzing and interpreting data provided by the enterprise and create a dashboard to visualize data.

III. Business objectives

The main objective of the Franco-American bank is to maximize the revenue and to do this we have to analyze not only the current data of the company but also we need to search for external data to better understand the client's behavior and help the bank to maximize its turnover. To realize these objectives our project will be divided on 3 main axes:

1. Scoring and classification
   - Determining commercial customer segments
   - Determining customer profiles by similarity
   - Determination of an individualized risk aversion score
   - Determination of customer sensitivity to interactions with ODDO BHF
2. Prediction
   - Prediction of business opportunity due + X months
   - Prediction of commercial risk at maturity + Y months
3. Reporting
   - Dashboard restitution of the different elements obtained in in the two axes of Classification and Prediction

IV. Data source identification and description

1. Tables and description

Table	Description
CLI_GCO_GeneriquesComptes	Portfolio / Contract Reference Table
CLI_GTI_GeneriquesTiers	Reference table of third parties in relation with the bank (customers, counterparties, ...)

CLI_TCL_TiersComptesLocal	Links between a securities account (portfolio) and a third party
CRO_CRO_CROD	Detailed operations report (SAMIC, SAB, ...)
MEN_GCO_GeneriquesComptes	Monthly: Securities Account Table (Portfolio)
CRM_V_INTERACTIONSOBP	Log of commercial interactions with the customer, recorded by the ODDO BHF Front
CRM_V_CONTACTS	Référentiel des prospect/clients dits "contacts" avec lesquels ODDO BHF entretient une relation commerciale

2. Tables and columns description

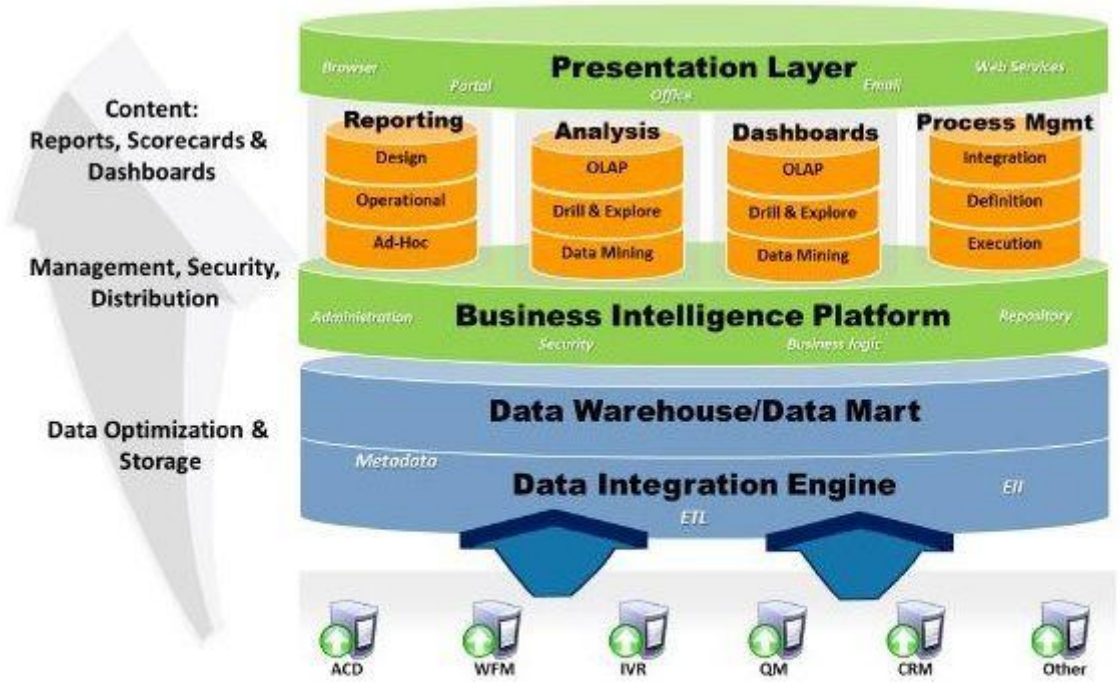
Table	Columns	Description
CLI_GCO_GeneriquesComptes	GCO_CodCompte	Unique identifier of the title account
	GCO_CodSociete	Lets you know the business entity of the account
	GCO_CodPrestataire	Indicates the source of the account
	GCO_CodTarif	Brokerage Rate Code
	GCO_CodTypeOrientation	Free Axis of Account Categorization
	GCO_IsOuvert	Indicates if the account is open
	GCO_IsPea	Indicates if it is a PEA
	GCO_IsAsv	Indicates whether the title account is an asset sub-account or an insurer's account
	GCO_IsNanti	Indicates if the account is pledged
	GCO_IsAssureur	Indicates if this is a life insurance account
	GCO_CodProduit	If product Life insurance: product code
	GCO_LibProduit	If product Life insurance: Product name
	GCO_TypGestion	Type of mandate of the portfolio (Managed, free, ...)
	GCO_LibEtatCompte	Calculated area to display the state of the account (blocked, rich, ...).
	GCO_CodTarifDDG	Fee Code Custody

	GCO_CodTarifFHG	Fee Code Management Fee
	GCO_IsPeaPme	If Account title: Indicates if it is a PEA / PME
	GCO_CodTypContrat	Used to determine the commercial offer of the account. Used to set the allowed values for example on this contract
	GCO_CodEnveloppeFiscale	Simplified account category
	GCO_CodTribu	CRM attachment of the account (Lutece)
	GCO_CodCapaciteSupportPertesMif2	Client's ability to bear financial losses, taking into account his or her personal situation
	GCO_CodProfilInvestissementMif2	Investment profile of the account
	GCO_CodToleranceRisqueMif2	Client's ability to tolerate the risk of financial loss
	GCO_CodHorizonPlacementMif2	Time horizon of financial investment
	GCO_CodObjectifPlacementMif2	Objectives of the investments desired by the client
	GCO_CodTypeDistributionMif2	Identifies the contractual terms of the relationship between the client and the bank Makes the parallel with the type of management underwritten by the client
	GCO_CodProfilRisqueMif2	Risk profile desired by the client for the management of his portfolio
	GCO_CodStrategieInvestissementMif2	Investment strategy
	GCO_AllocationActionMinMif2	Min limit (%) of the share in the portfolio
	GCO_AllocationActionMaxMif2	Max limit (%) of the share in the portfolio
CRO_CRO_CROD	CRO_CodSociete	Lets you know the business entity of the account
	CRO_CodAnnulation	Cancellation Code (A = Canceled, N Canceling)
	CRO_CodOperation	Code Operation (procedure)
	CRO_LibOperation	Operation label (linked to odTypOperation)
	CRO_CodCompte	Unique account identifier

	CRO_CodSens	Cod meaning of the operation
	CRO_Qte	Decimated quantity
	CRO_Crs	Trading course
	CRO_CodIsin	Isin code identifying the instrument
	CRO_MntBrutDevDep	Gross amount of the transaction expressed in the currency of the vote
	CRO_Dateffet	Effective date of transaction on account positions
	ESO_CodType	"Identifies the type of operation: F -> Species T -> Titles E -> Exotic Performance "
	ESO_CodProvenance	"Identifies the origin of the funds: E - External to the institution I - Internal to the establishment
CRM_V_INTERACTIONSOBP	ActivityDate	Date of the activity
	ActivityType	Type of activity
	contactId	Linked contact id
	ContactType	Type of contact
CRM_V_CONTACTS	Id	Unique technical ID
	Code	Unique ID of the third party when the contact has been transformed into a customer
	Status	Contact status
	ClientPhoneContactFrequency	Frequency of telephone contact with the customer
	ClientMeetingFrequency	Frequency of appointment with the client
	MeetingFrequency	Frequency of appointment with the client
	PhoneContactFrequency	Frequency of telephone contact with the customer
CLI_GTI_GeneriquesTiers	GTI_CodTiers	Unique identifier of the third party
	GTI_CodAdresse	Identifier of the mail address (Link with CLI_ADL_LocalAddresses)
	GTI_CodSociete	Allows to know the business entity of the third party
	GTI_CodCivilite	Code of politeness
	GTI_CodPaysNaissance	Country of birth code
	GTI_NumResidentFiscalite	Exchange Control Code
	GTI_NumSituationFamiliale	Family status code
	GTI_DatNaissanceOuCreation	Date of birth for natural persons or of creation for legal persons
	GTI_CodCSP	Professional category code

	GTI_CodSexe	Code sexe
	GTI_NumProfession	Code of the profession
	GTI_NumStatutPers	Type de tiers (Code ouverture SAMIC)
	GTI_AdrDepartementNaissance	Birth Department Number
	GTI_CodPrestataire	Defines which back office system communicated this third party
	GTI_CodTypeInvestisseurMif2	Type of investor
	GTI_CodExperienceMif2	Level of customer experience in finance
	GTI_CodCapaciteProduitComplexeMif2	Customer's ability to master the so-called complex products
CLI_TCL_TiersComptesLocal	TCL_CodCompte	Identifiant du compte titre
	TCL_CodTiers	Third party identifier
	TCL_NumLien	Third Party Attachment Code
	TCL_CodSsociete	Lets you know the business entity of the account
	CRT_Libelle	Wording explaining the connection between third parties and account

V. System architecture diagram



Business Intelligence in the Contact Center: A BI architecture extracts, transforms and loads data from operational systems (ACD, IVR, workforce management, etc), and optimizes it for reporting and analysis.

Our system architecture diagram is composed basically by 3 layers:

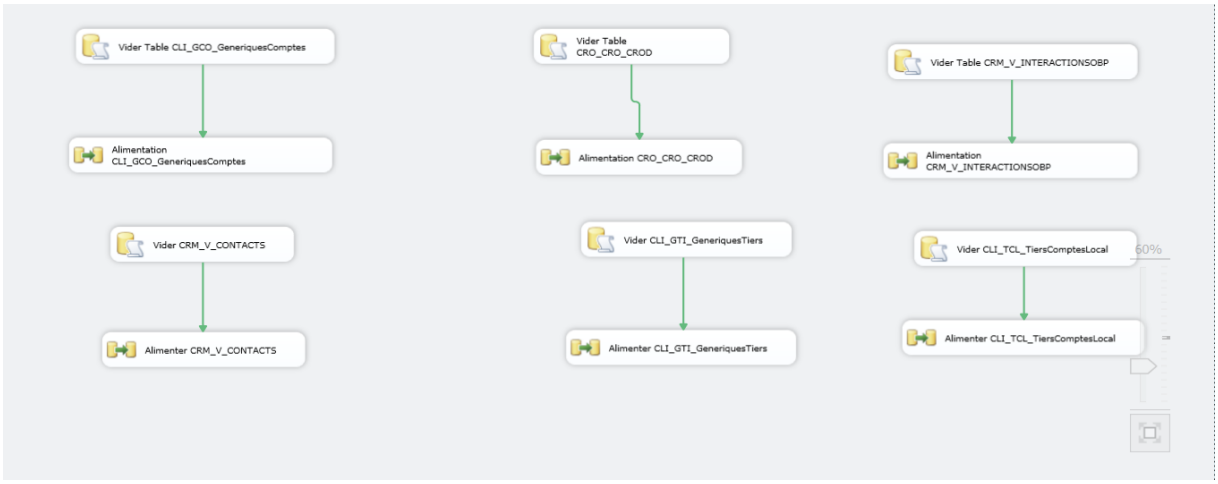
The first layer “Data Optimization and storage” structure the incoming data from the company software (CRM, QM …) it’s the phase EL (Extract, Load) then the structured data will be transformed to the datawerehouse which is the phase ETL.

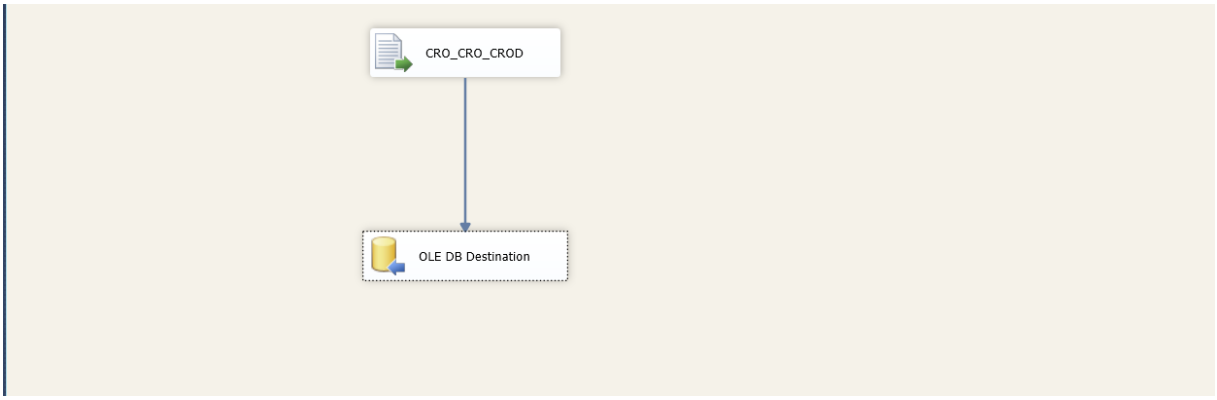
The second layer is “Management Security and Distribution” a business intelligence platform will be created to realize Reports and dashboards and make analysis

The third and the last layer is the presentation layer which will host web-sites or mobile applications that contains results from the second layer.

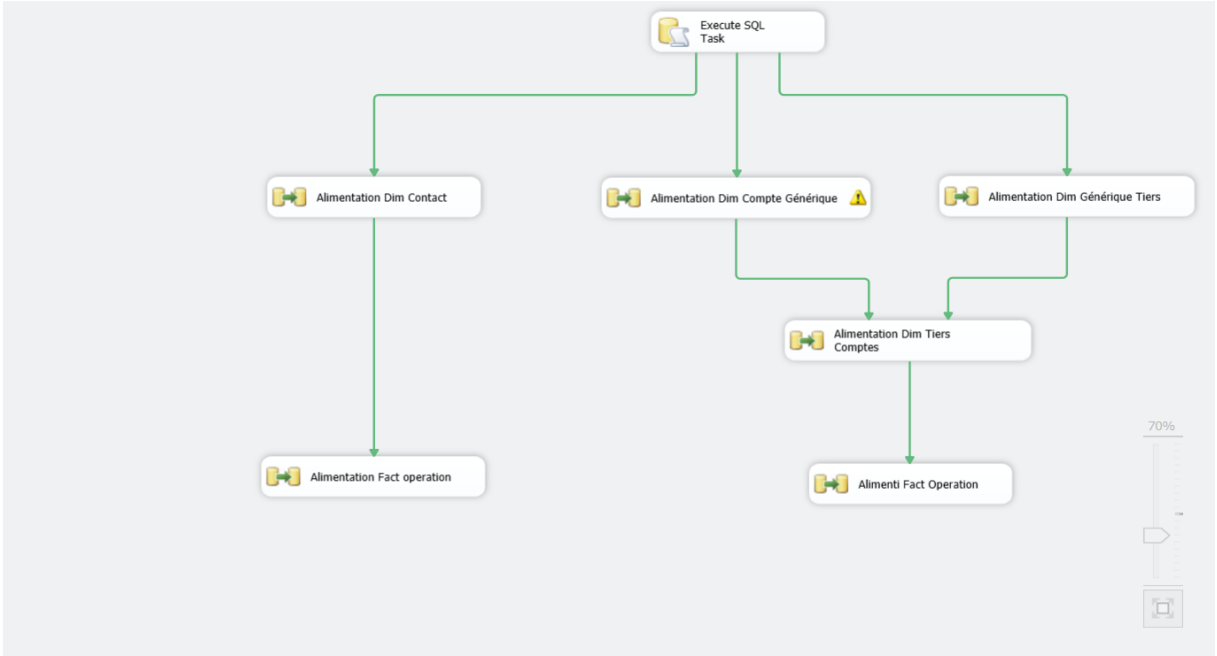
VI. Data warehouse schema

VII. Persisting Staging Area

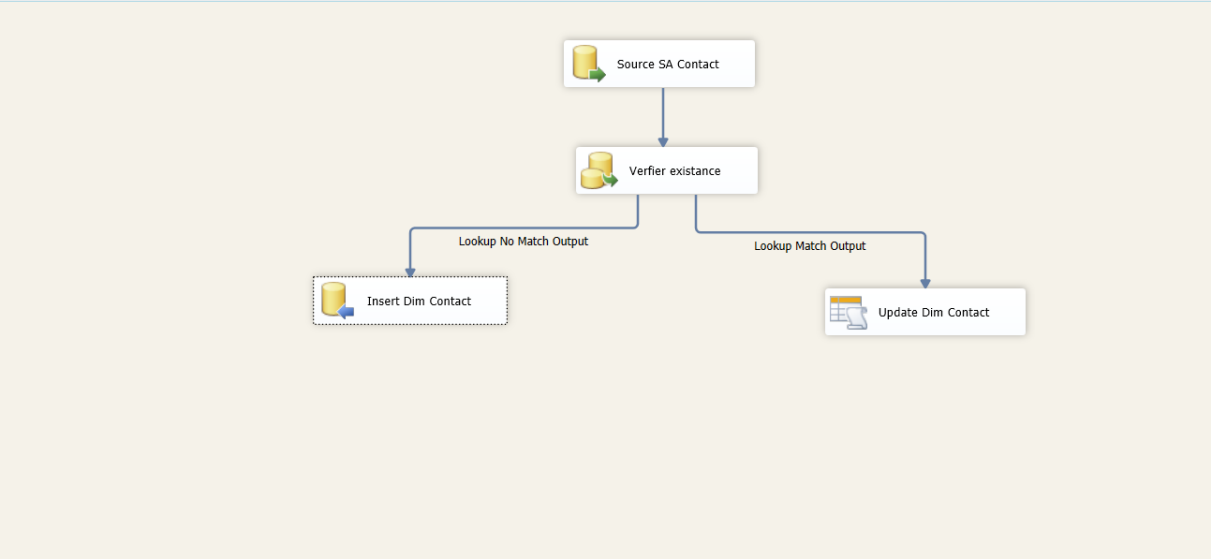




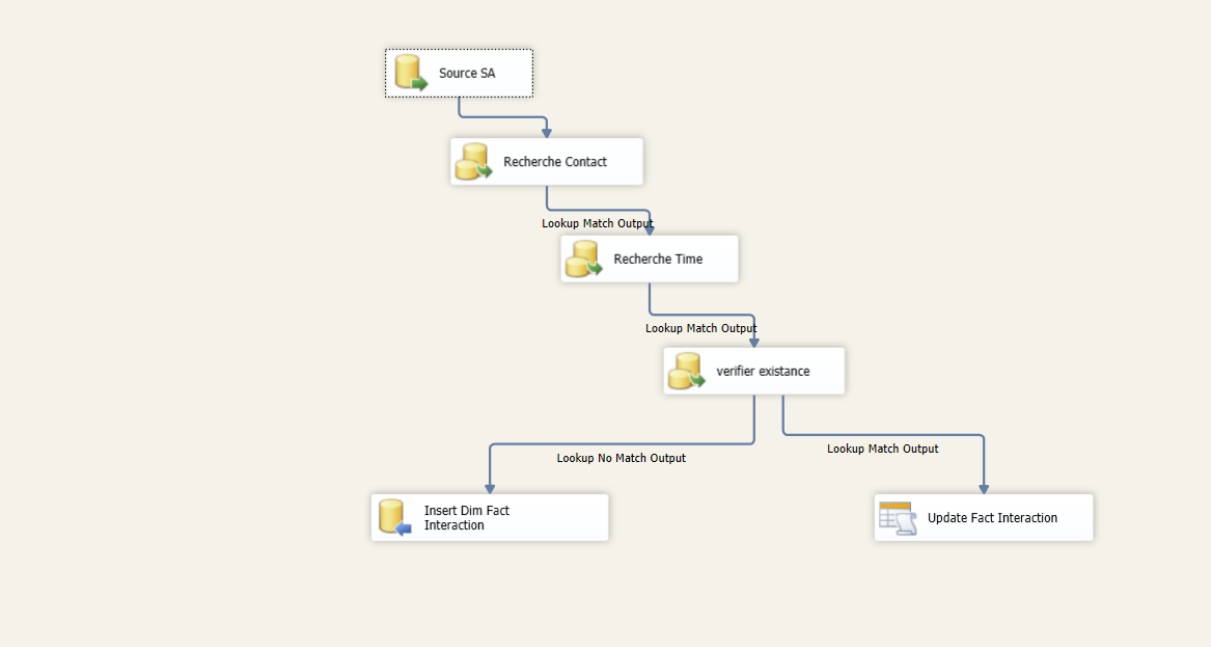
VIII. Persisting in Data Warehouse



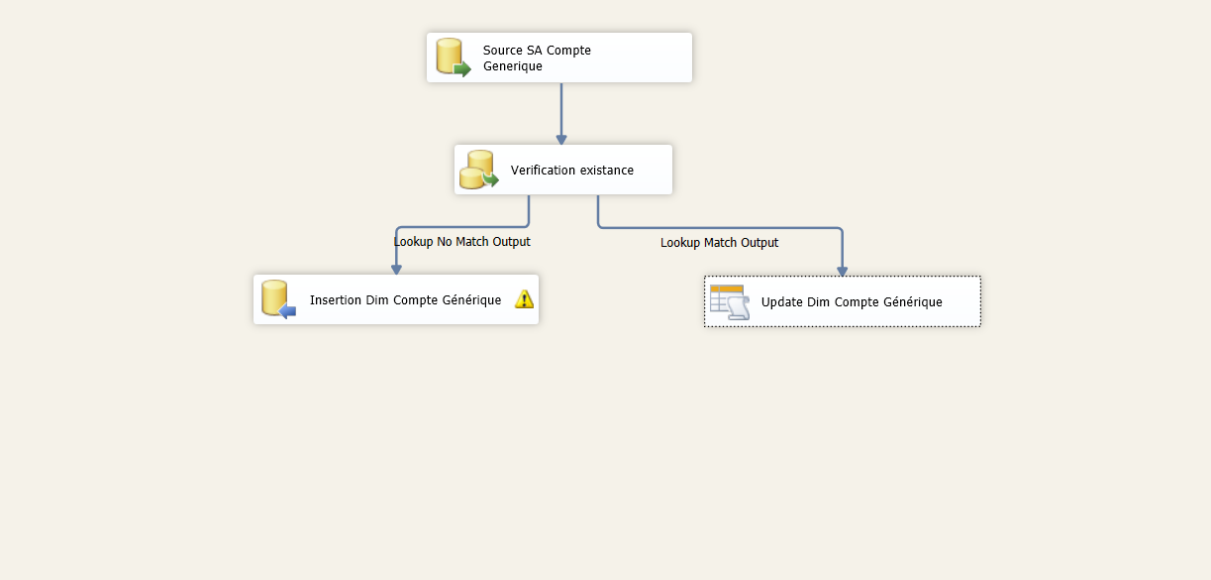
1. Dimension CONTACT



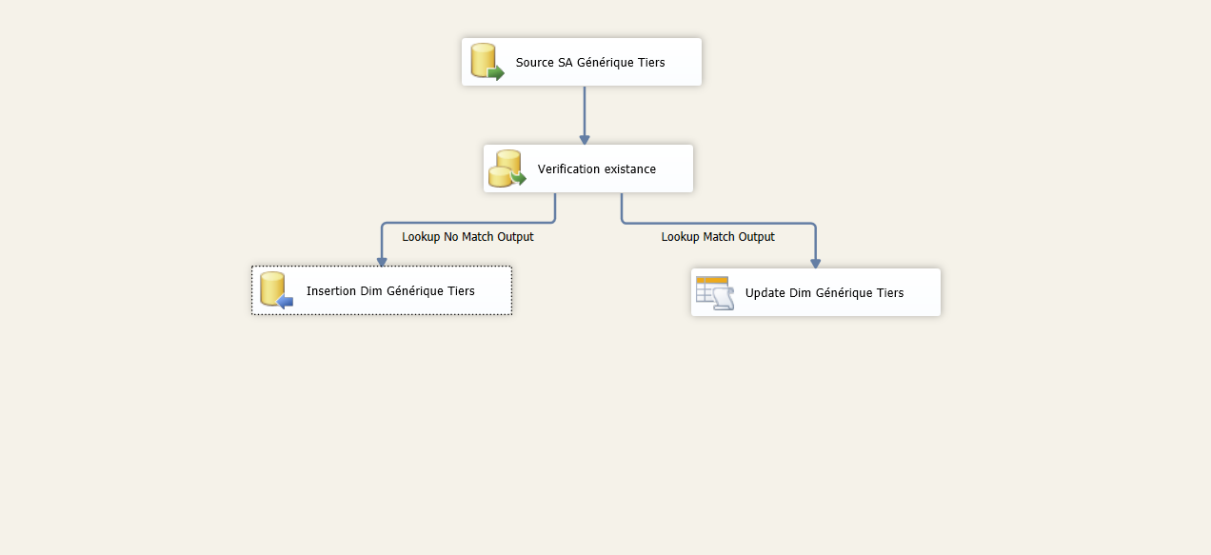
2. Fact INTERACTION



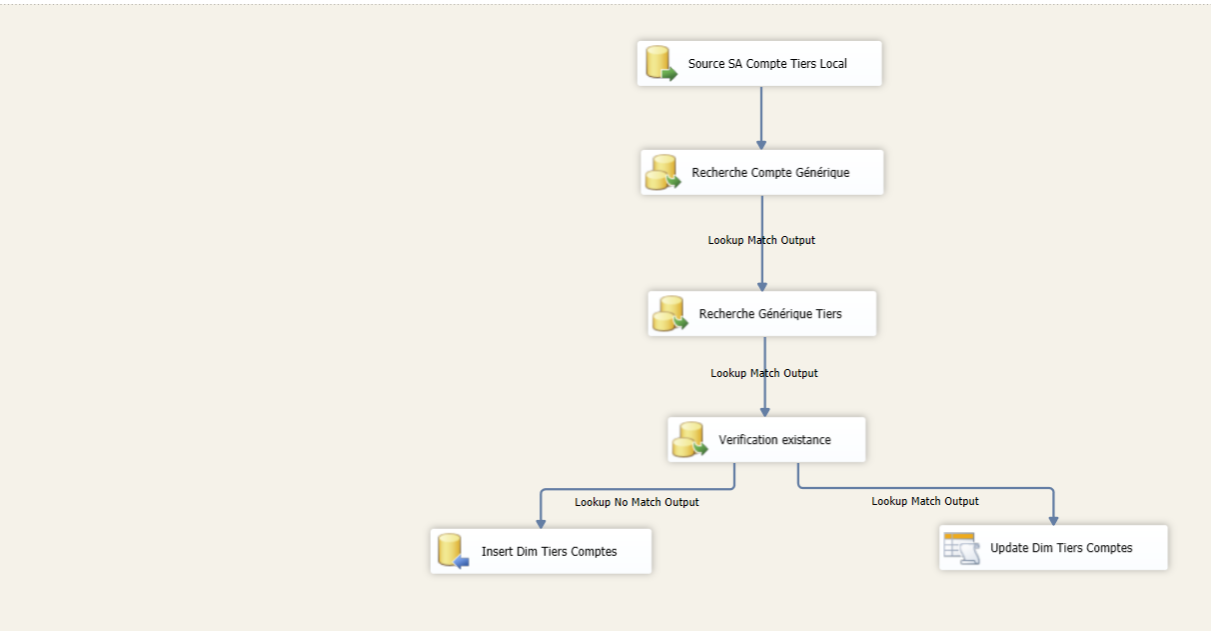
3. Dimension GENERIQUE COMPTE



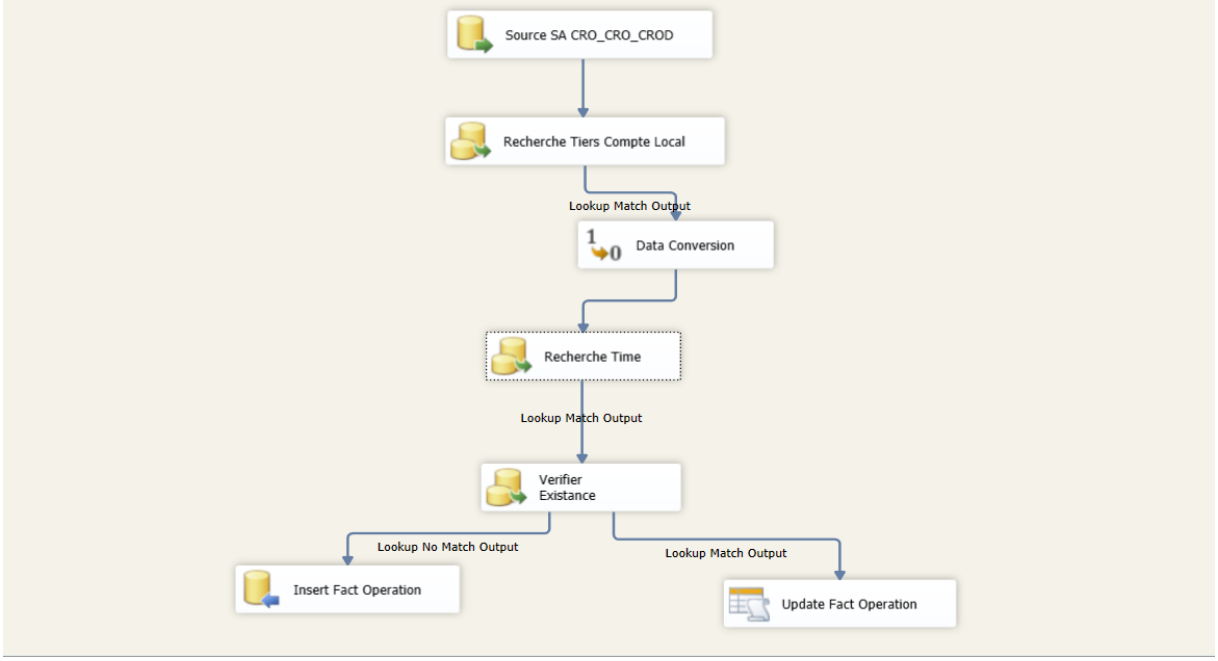
4. Dimension GENERIQUE TIERS



5. Dimension TIERS COMPTE



6. Dimension OPERATION



IX. Conclusion

During this project we will try to realize the objectives of “Oddo bhf private bank” which are profiling and scoring , prediction and reporting to help them to maximize their turnover and better understand customers. We will use through this project different tools of data structuring like (MSBI) , Reporting(PowerBI) and for prediction we will use python.