

MIS633 Group 3

Retail Banking

Group 3

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Business: Retail Bank

- Retail banking, also known as consumer banking, refers to the services banks provide to individual customers. Common retail banking services include checking and savings accounts, mortgages, credit cards, and auto loans.
- Banks have traditionally been located in physical locations, but a growing number now operates exclusively online.
- Retail banks are important to the economy because they create capital, credit, and liquidity in the market.

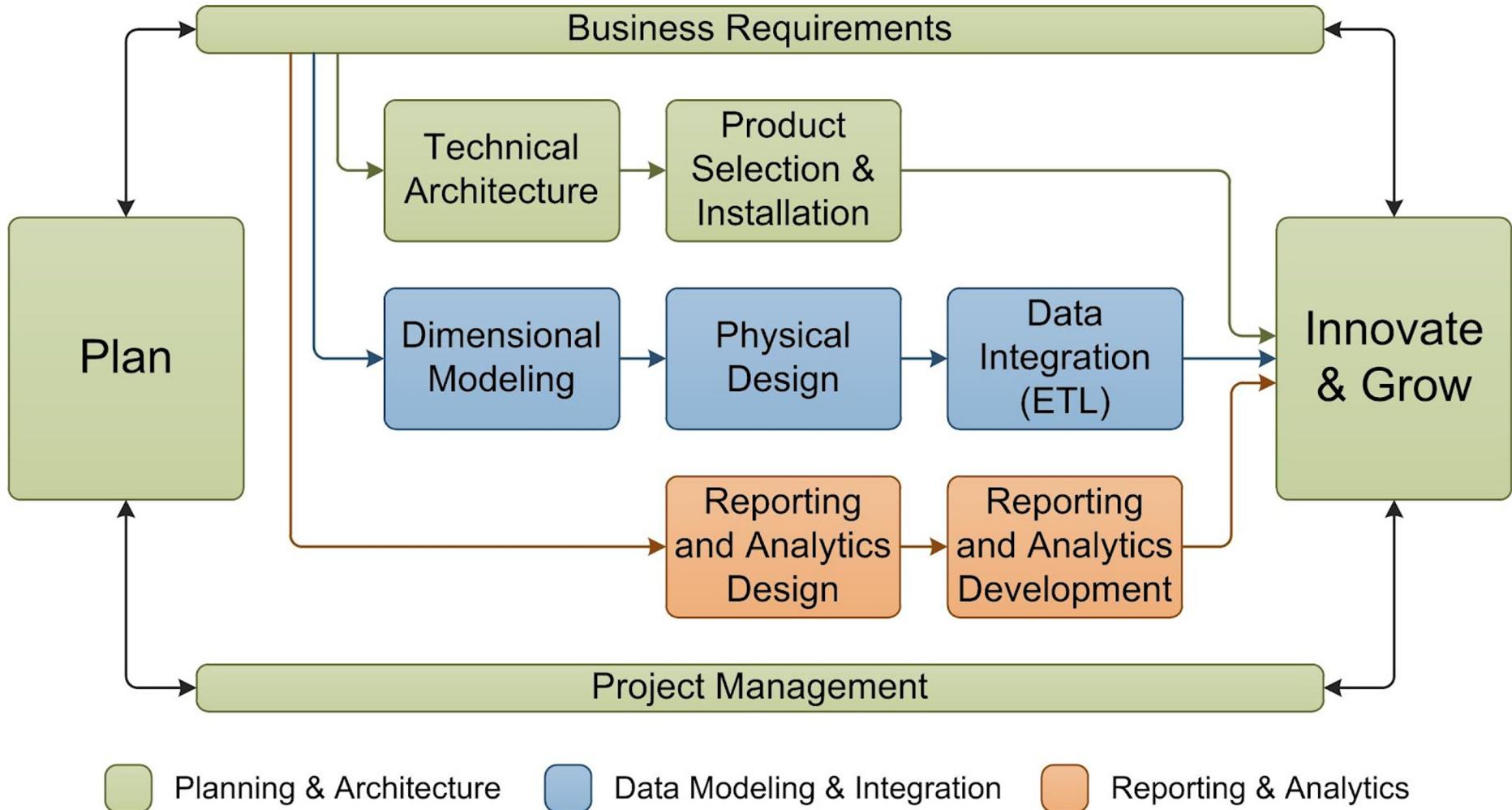
Offers:

- Deposits
- Checking accounts
- Saving accounts
- Loans
- Online services
- Credit card Services

Problem statements:

- Which bank branch had most incoming deposits?
- What region has most bank branches per capita?
- How many new incoming credit card customers in certain state?

Business Dimensional Lifecycle





High Level Bus Matrix

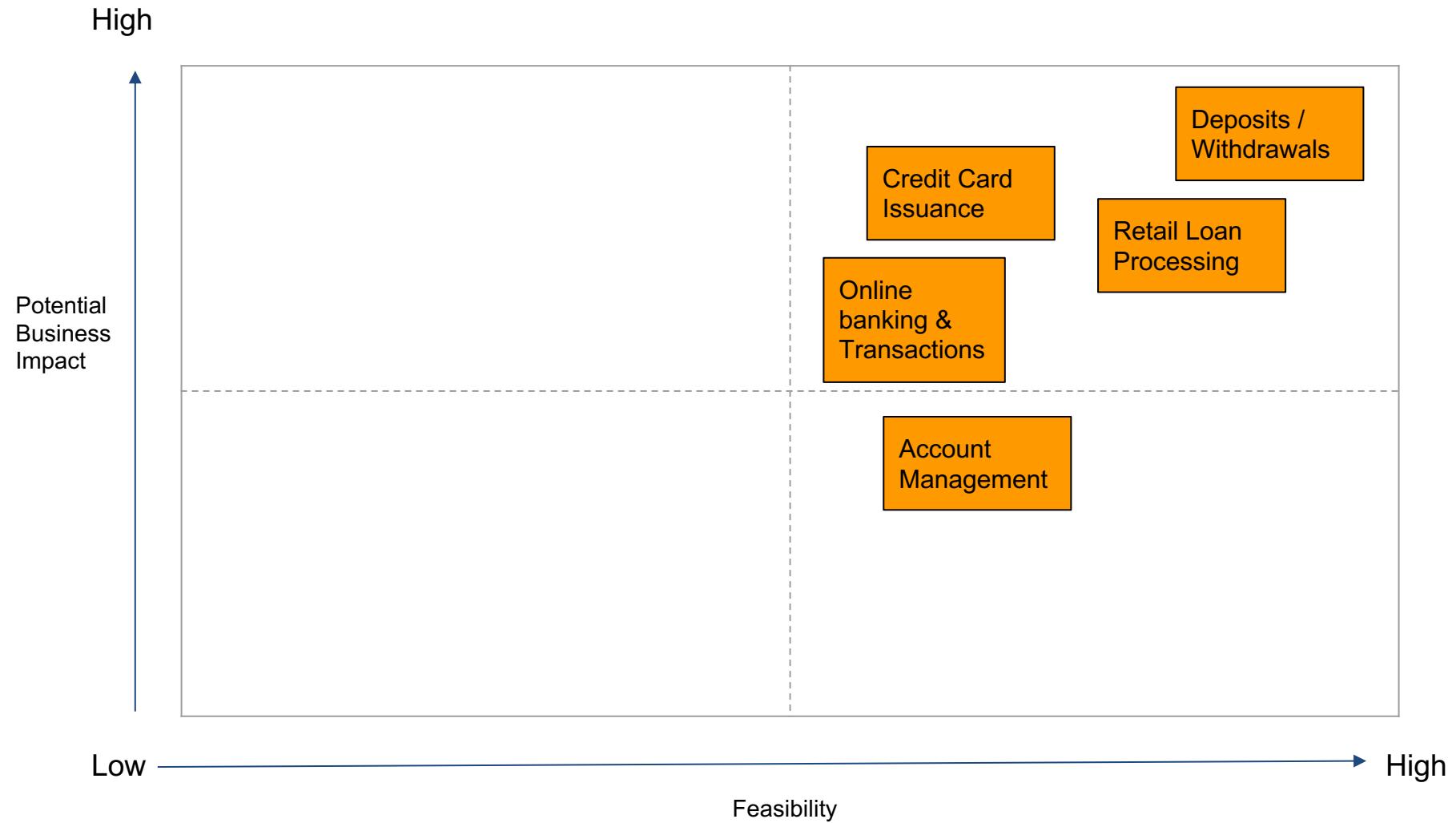
Business Process	Time	Employee	Customer Account	Account Type	Branch	Policy
Deposits & Withdrawals	✓	✓	✓	✓	✓	
Online Banking & Transactions	✓		✓	✓		
Retail Loan Processing		✓	✓		✓	✓
Credit Card Issuance	✓	✓	✓	✓		✓
Account management	✓		✓	✓		



Opportunity Matrix

Business Process	Finance	Operations	Strategic Management	Marketing	Customer Service
Deposits & Withdrawals	✓	✓	✓	✓	
Online Banking & Transactions	✓	✓	✓	✓	✓
Retail Loan Processing		✓	✓	✓	
Credit Card Issuance		✓	✓	✓	
Account management		✓			✓

Prioritization Grid





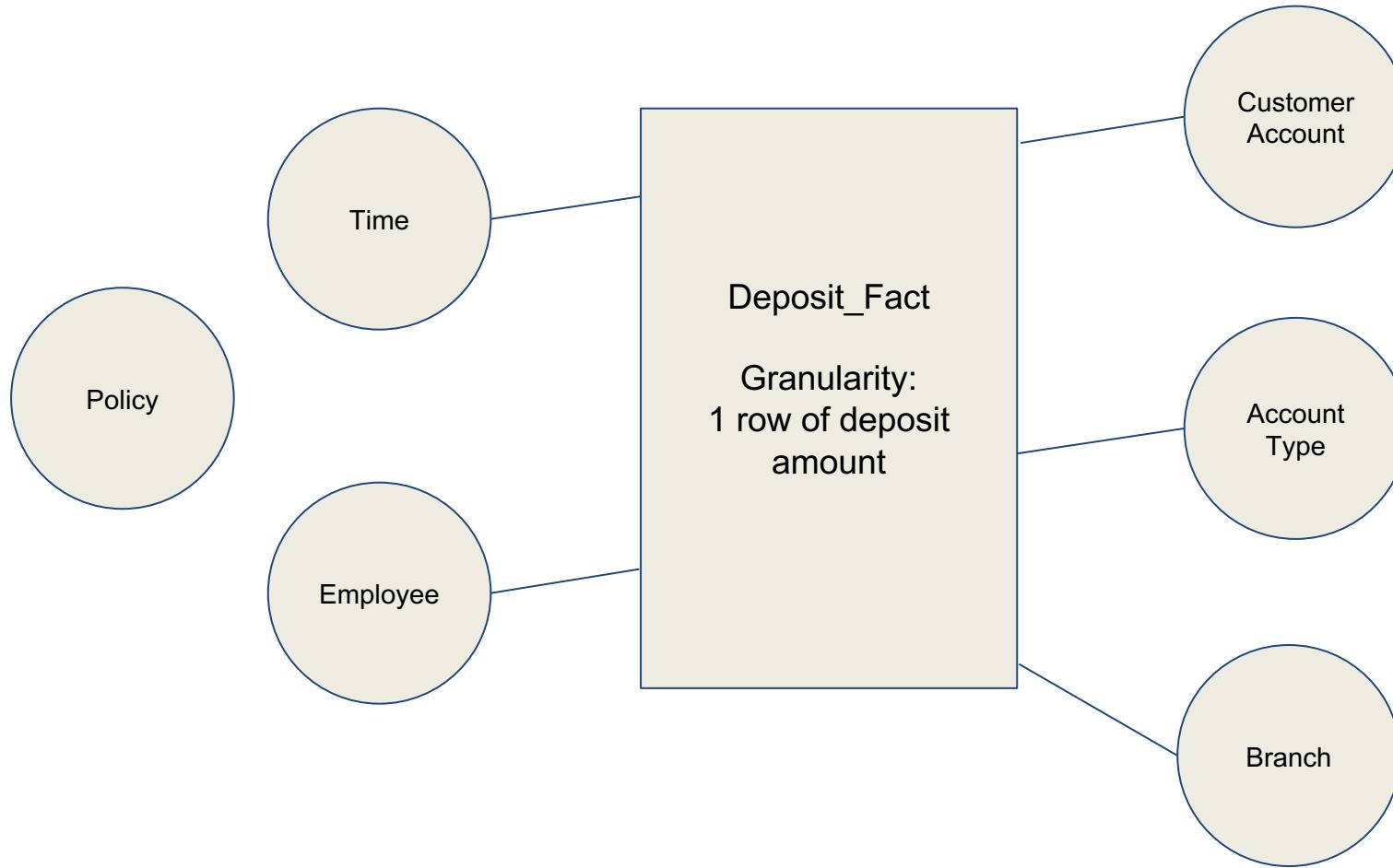
Low-Level Bus Matrix

Data Mart / Dimension	Time	Employee	Customer Account	Account Type	Branch	Policy
Deposits	✓	✓	✓	✓	✓	
Withdrawals	✓	✓	✓	✓	✓	
Online Inbound Transactions	✓		✓	✓		
Online Outbound Transactions	✓		✓	✓		
Retail Loan Processing		✓	✓		✓	✓
Credit Card Issuance	✓	✓	✓	✓		✓
Accounts Management	✓		✓	✓		

Detailed Bus Matrix

Dimensions									
Business Processes	Fact Tables	Granularity	Facts	Time	Employee	Customer Account	Account Type	Branch	Policy
Deposits & Withdrawals	Deposit_Fact	1 row for every deposits	Deposit amount	✓	✓	✓	✓	✓	
	Withdrawal_Fact	1 row for every withdrawals	Withdrawal amount	✓	✓	✓	✓	✓	
Online Banking & Transactions	Inbound_Trans_Fact	1 row for every inbound transactions	Inbound amount	✓		✓	✓		
	Outbound_Trans_Fact	1 row for every outbound transactions	Outbound amount	✓		✓	✓		
Retail Loan Processing	Loan_Fact	loan per month	loan amount / quantity / account		✓	✓		✓	✓
Credit Card Issuance	Credit_Card_Issue_Fact	1 row per credit card issuance	credit card account / amount / policy	✓	✓	✓	✓		✓
Account management	Account_Fact	update per hour	Account update / new assignment	✓		✓	✓		

Logical Fact Diagram





Detailed Fact Table

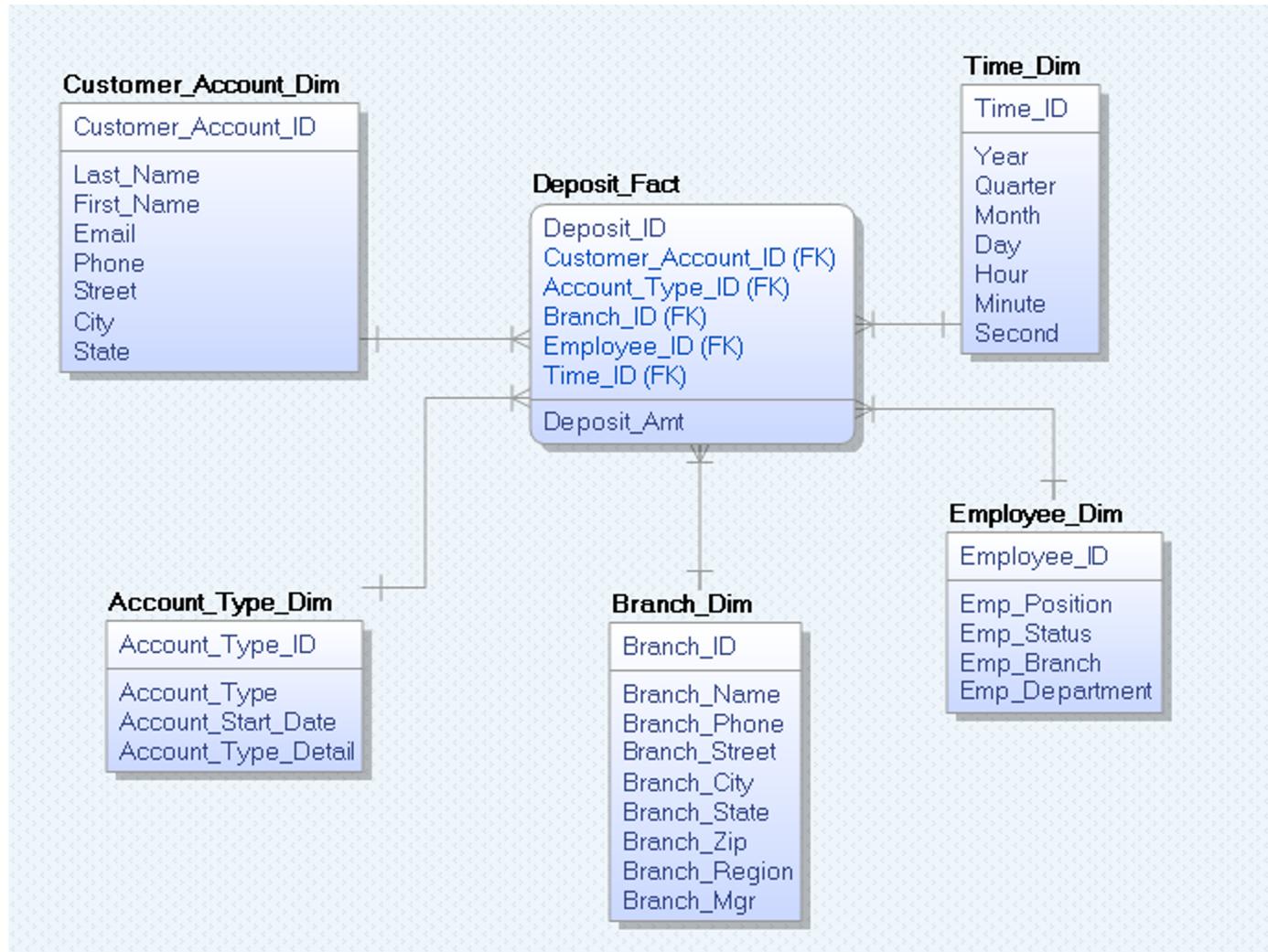
Deposit_Fact Table:

Time_Key
Employee_Key
Customer_Account_Key
Account_Type_Key
Branch_Key

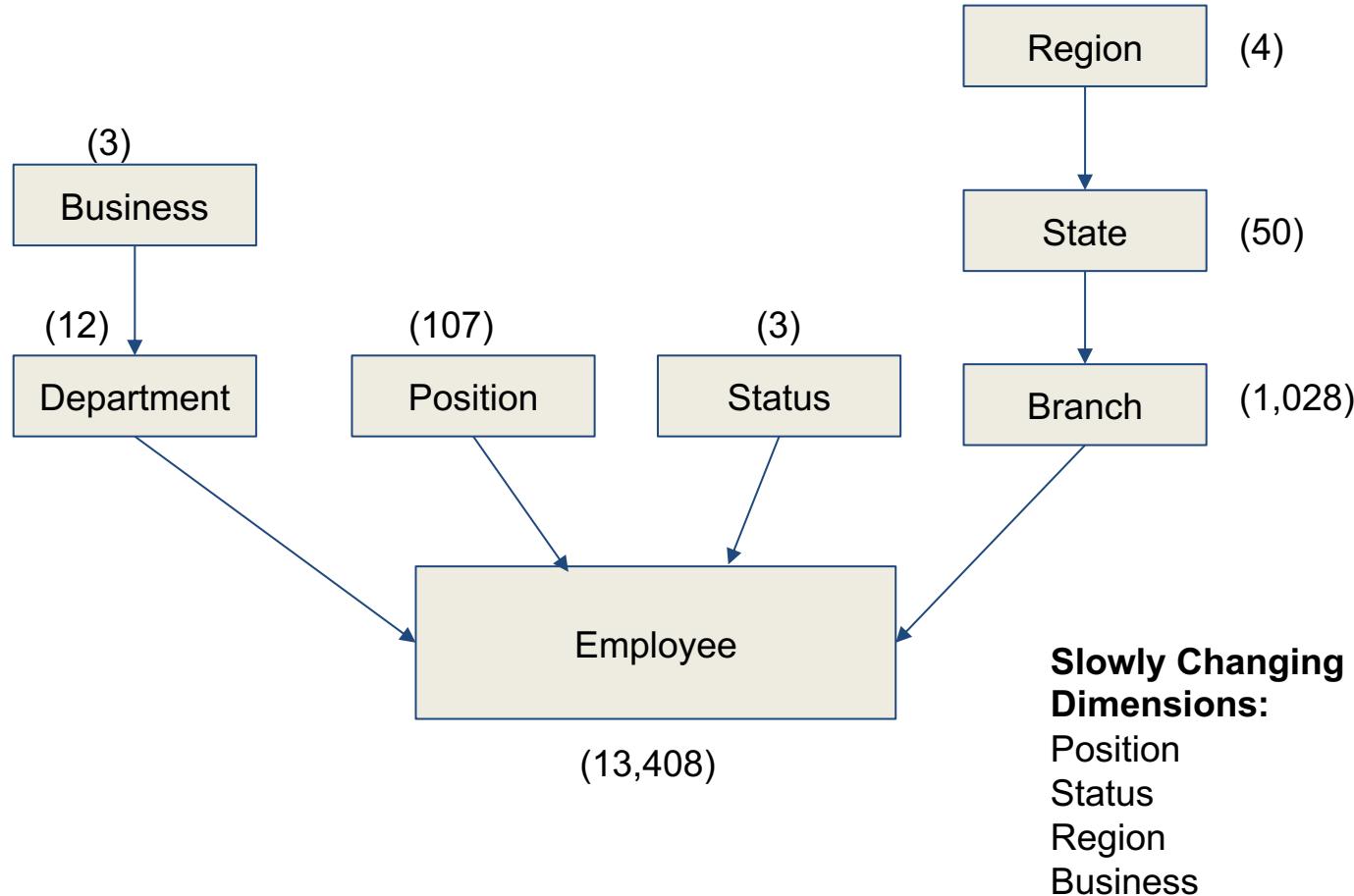
Deposit_Amt (Basic Fact)

Fact Table shows dimension keys and basic fact

Detailed Fact Table (Cont.)



Dimension Detail Detail: Employee Dimension

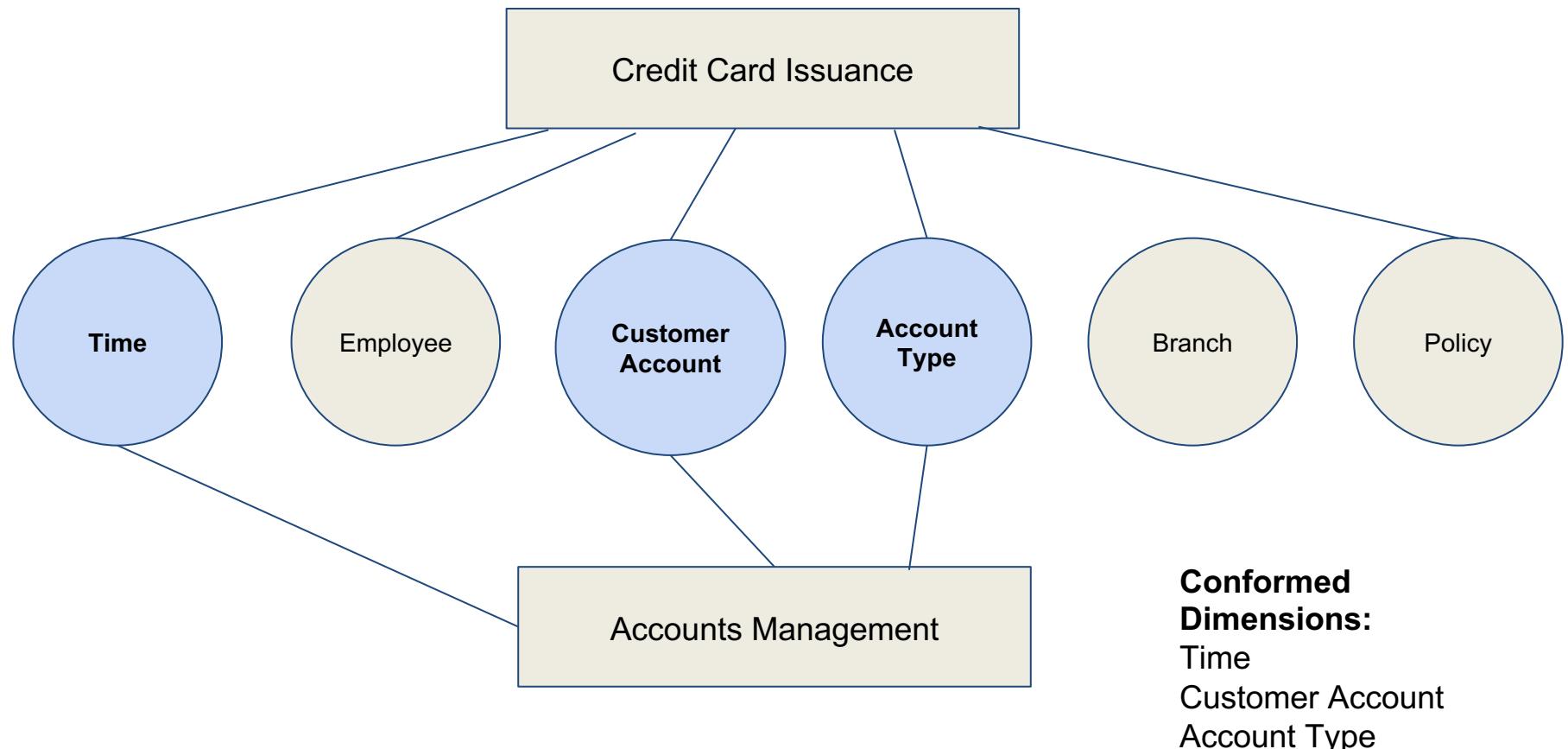




Dimension Attribute Detail Diagram

Attribute Name	Attribute Desc.	Cardinality	Slowly changing dimension policy	Sample Values
Employee	Employee ID uniquely identify each employees	13,408	Not Updated	1059724
Business	Employee's Business Sector	3	Type 2	Loan
Department	Department of an employee	12	Type 2	HR, Finance, Accounting, Loan
Position	Position of employee	107	Type 2	Teller, Loan specialist, Credit Card Specialist
Status	Employment status	3	Type 2	Active, Inactive, Temp
Region	Employee's region	4	Overwritten	West, North East, South East
State	Employee's state	50	Overwritten	AZ, NJ, NY, WA, CA
Branch	Employee's branch	1,028	Overwritten	NJ001, CA028

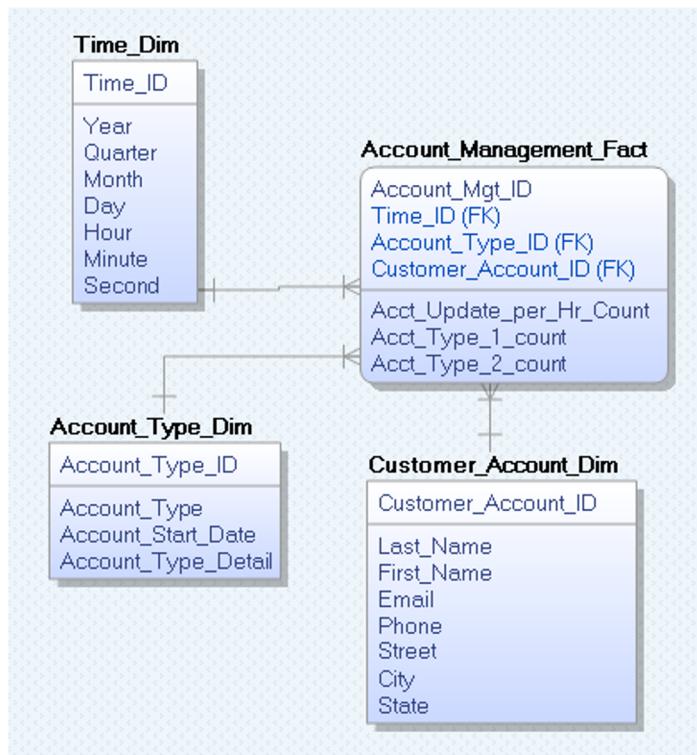
Conformed Dimensions



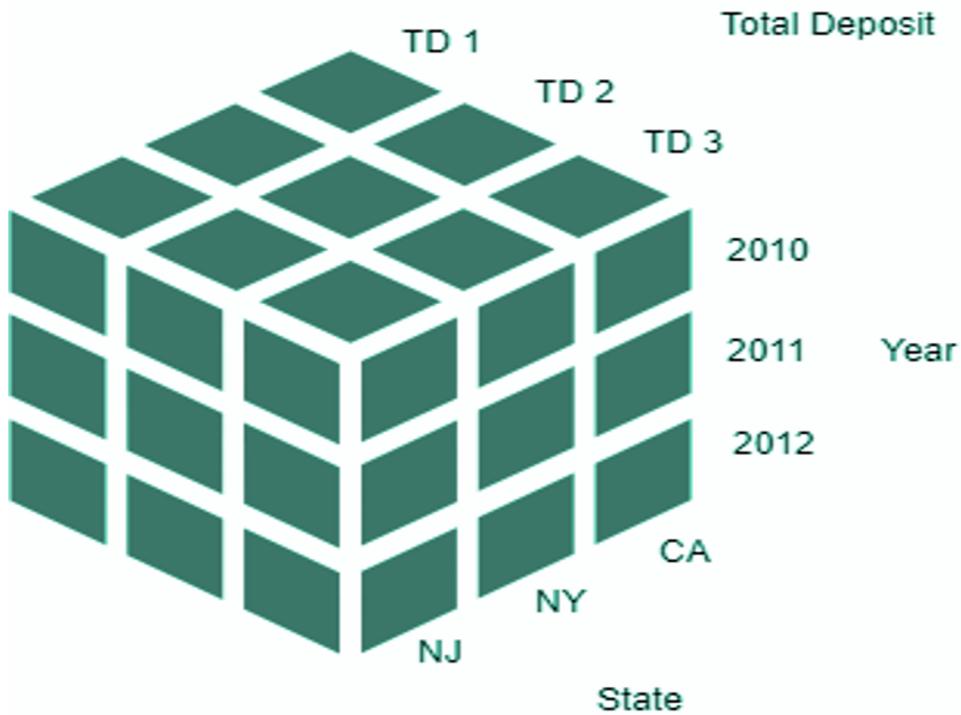
Aggregation Table

Business Processes	Fact Tables	Granularity	Facts	Time	Employee	Customer Account	Account Type	Branch	Policy
Account management	Account_Fact	update per hour	Account update / new assignment	✓		✓	✓		

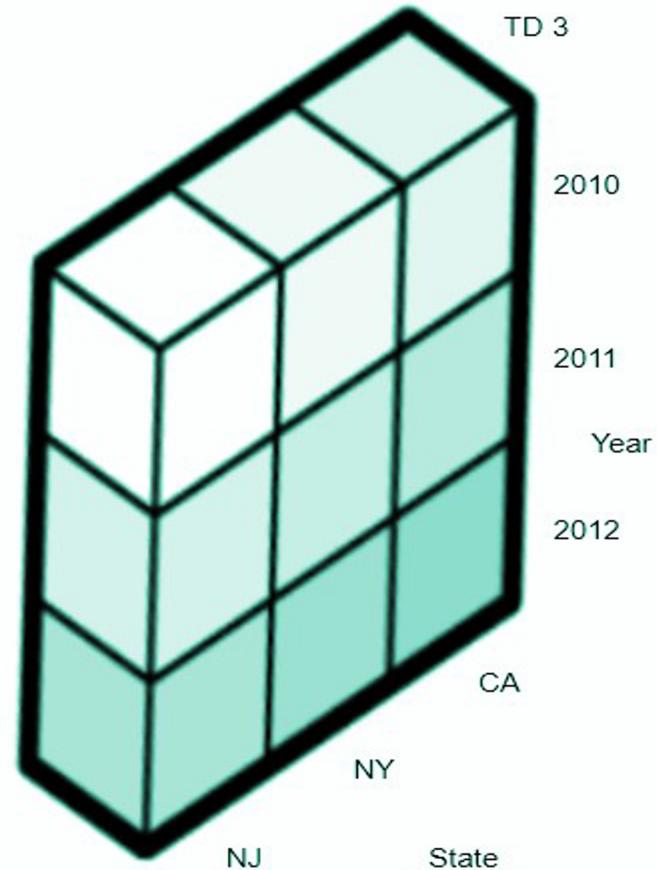
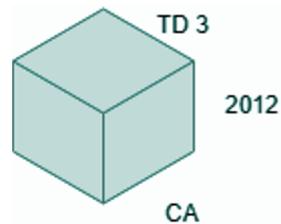
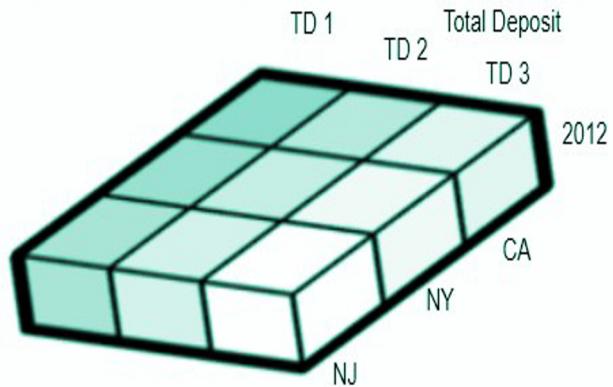
- Aggregation to analyze hourly update counts
- Shows different account types counts for each type of account (e.g. Checking, Saving)



Cube Drill Down Approach



Cube Slicing & Dicing

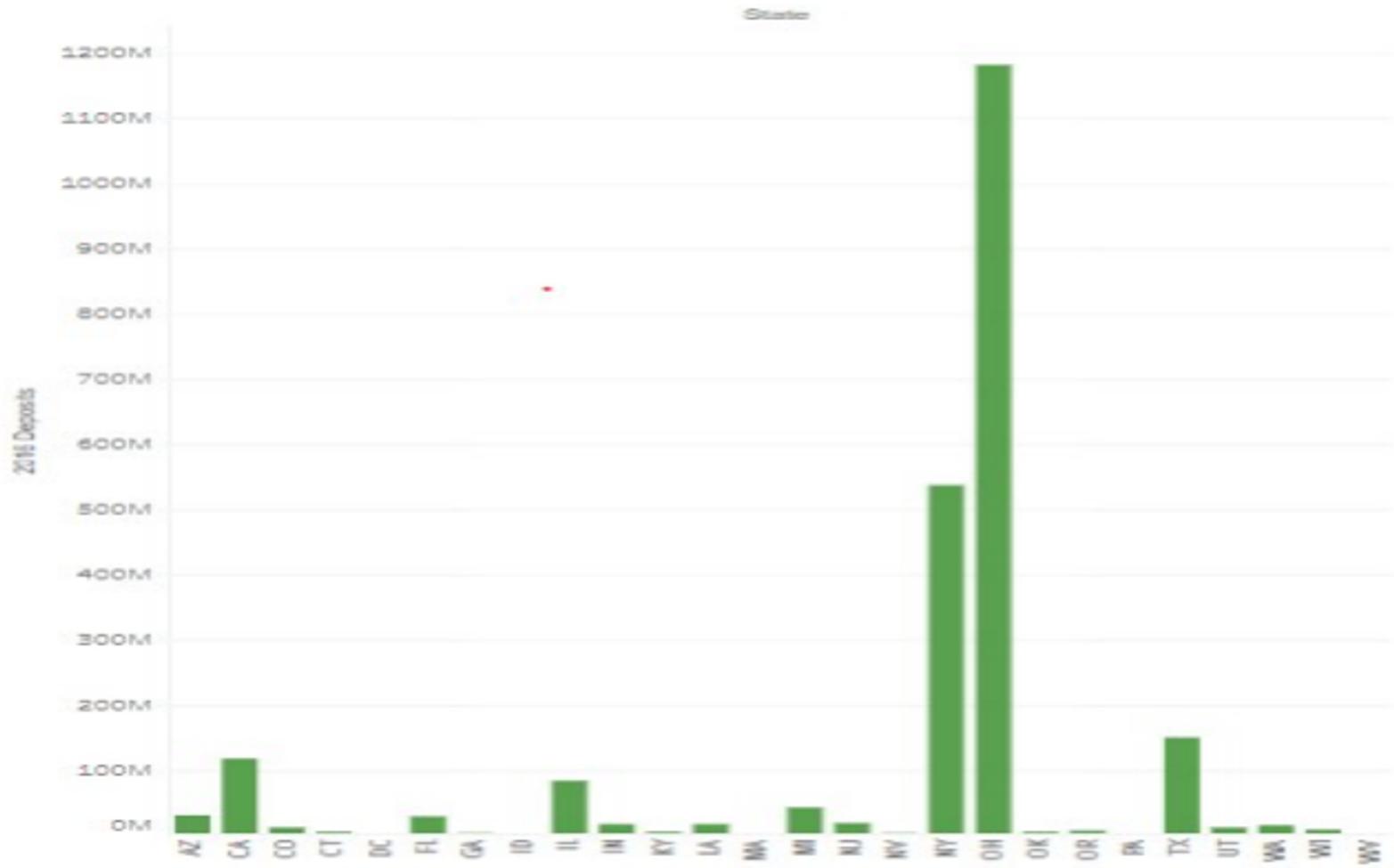




Cube Approach

- The solid shape approach assists us with giving huge data in regards to reporting
- This specific methodology gives subtleties about the total deposits done in a specific year in a specific state
- This would help in the reporting of data done at granular level
- Also, it helps in settling our problem statement which we have examined before

BI Portals and Dashboards – Tableau Visualization

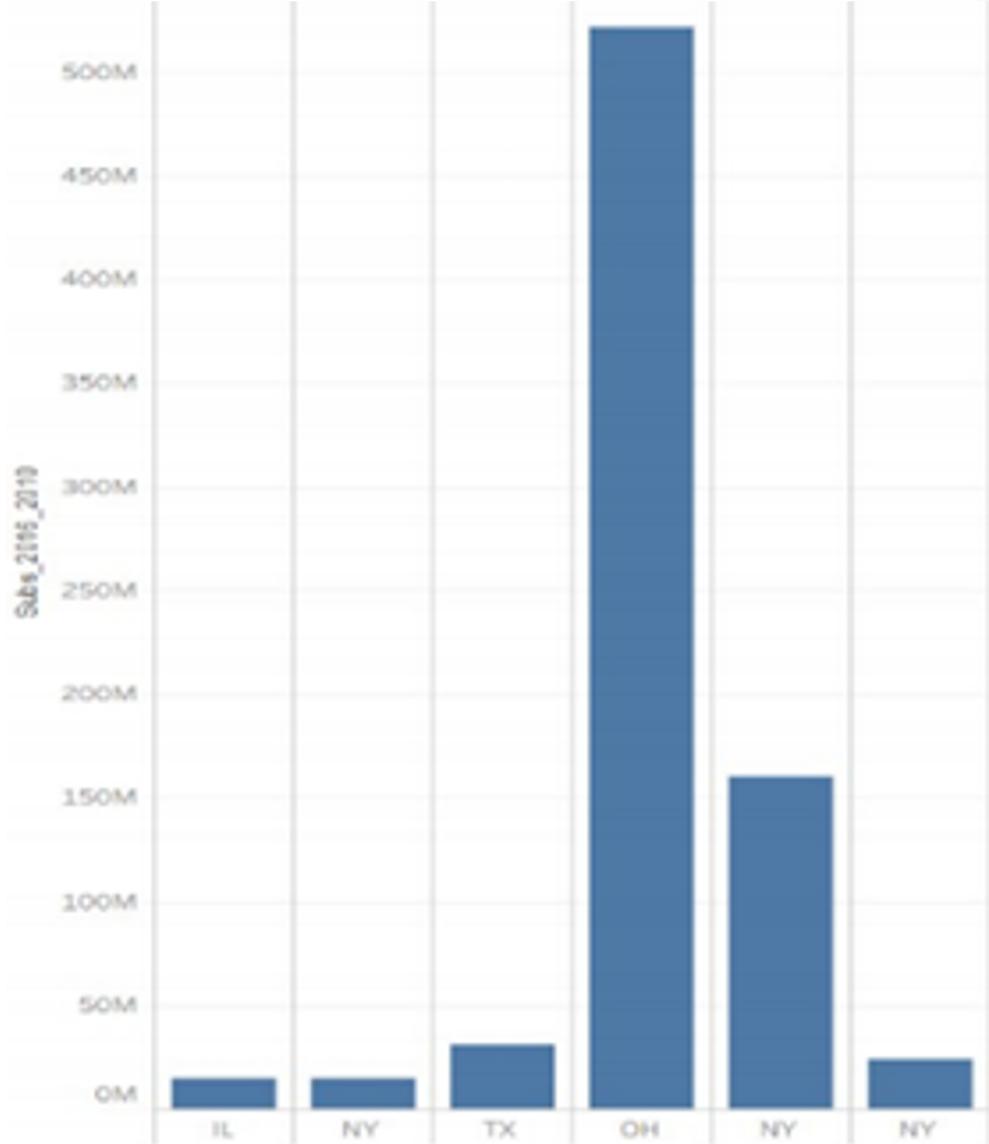




BI Portals and Dashboard

- Graph shows the amount of deposits in the year 2016 for different states in USA.
- It shows Ohio having the max amount of deposits of around \$1175 million.
- New York had the second highest deposits of around \$550 million.
- The graph shows rest of the states having deposits of less than \$200 million.
- Some states have no deposits for the year 2016.

BI Portals and Dashboards – Tableau Visualization





BI Portals and Dashboard

Graph shows the top six state branches of the bank which have the highest growth.

The calculations for the values on the graph are based on margin growth from the year 2016 to 2010.

The branch in Illinois shows a growth of around \$15 million.

One of the branches in New York shows a growth of around \$15 million. The other in NY shows growth of around \$160 million and the third in NY shows a growth of around \$25 million.

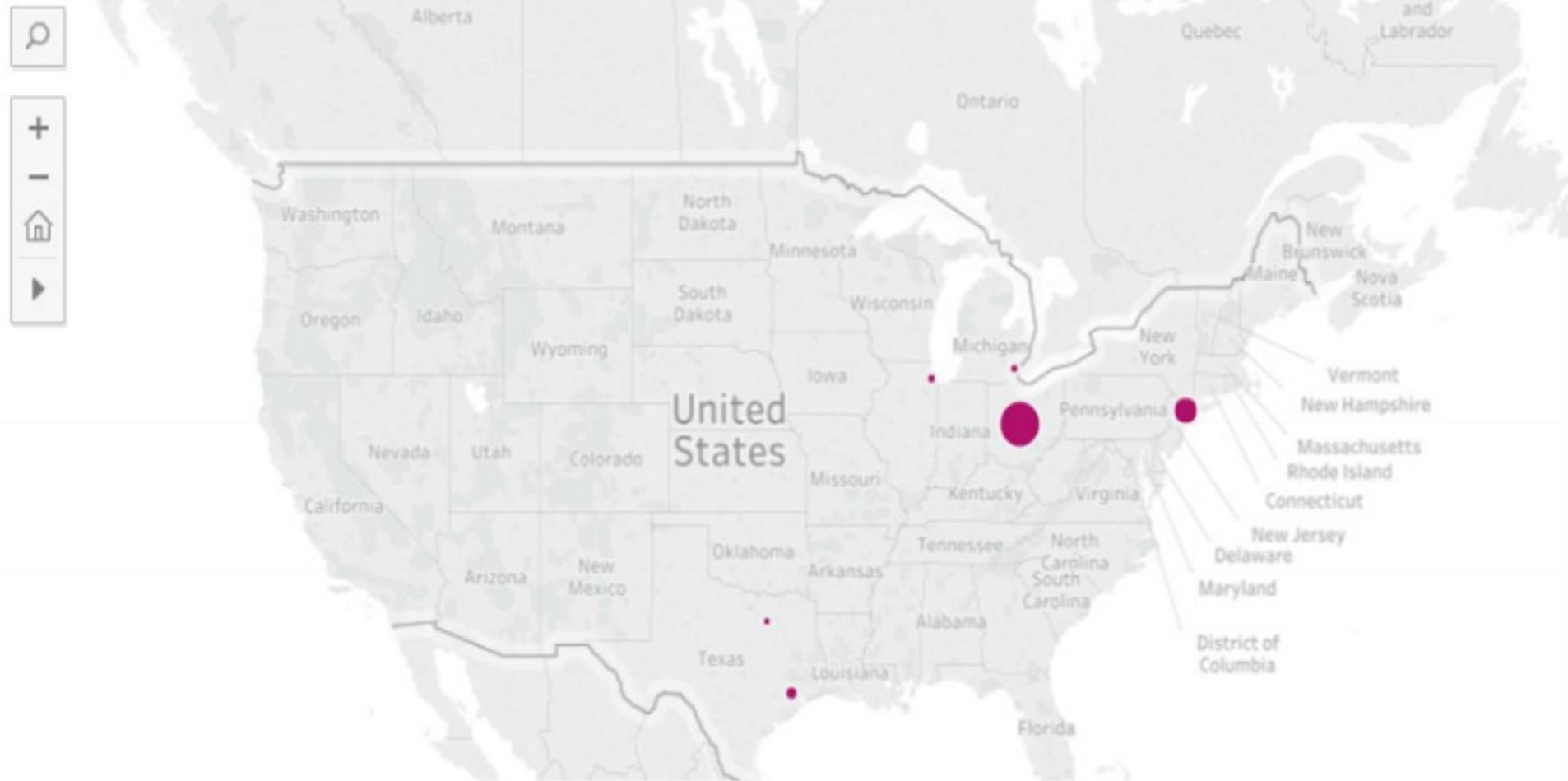
Since there are 3 branches from top 6 coming from NY, this could mean that growth in this state is considerably more than others.

The branch in Texas shows a growth of around \$30 million.

The growth for the branch in Ohio is of around \$520 million which is probably because that branch is the head main office for the bank.



BI Portals and Dashboards – Tableau Visualization





BI Portals and Dashboard

- Map shows the location of branches with the highest growth based on the size of the red dots. The bigger the size, the higher the growth in the state.
- As the Ohio branch had the highest growth of around \$520 million, the map depicts this by the state getting the largest red dot.
- Map shows NY state having the second largest red dot which means that this state is considered to have the second largest growth.
- Similarly the sizes of the red dots on the maps for each state correspond to the size of growth in that particular state.

BI Portals and Dashboards – Tableau Visualization



BI Portals and Dashboards

Graph shows the growth in number of new branches every year from the year 2010 to 2016.

The number of new branches for the year 2010 was 130.

The number of new branches for the year 2011 was 245.

The number of new branches for the year 2012 was 165.

The number of new branches for the year 2013 was 140.

The number of new branches for the year 2014 was 70.

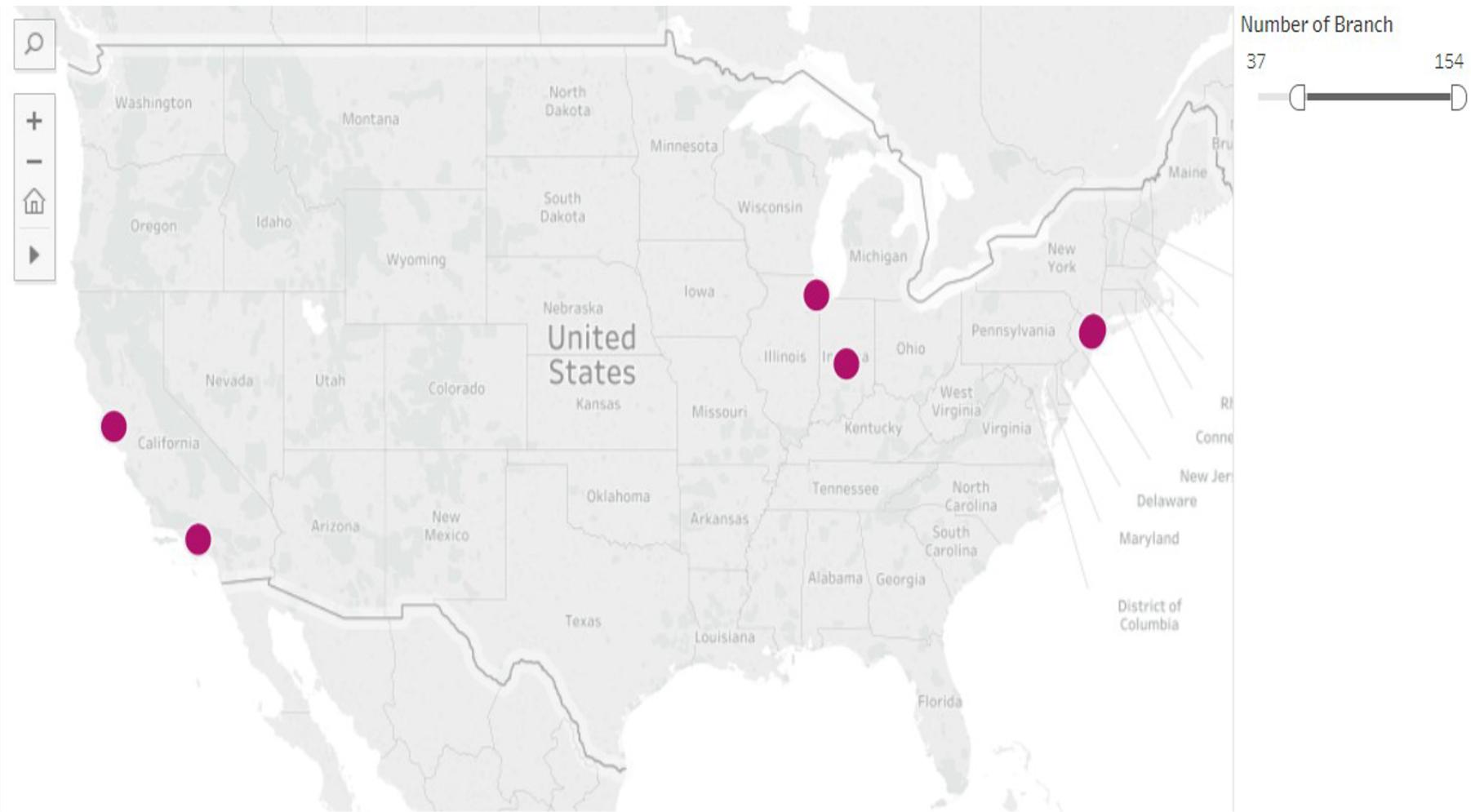
The number of new branches for the year 2015 was 25.

The number of new branches for the year 2016 was 20.

It can be seen that there was a higher growth in number of new branches up until 2011. From 2012 to 2016 onwards there was a gradual fall in the growth of new branches.



Tableau Visualization



BI Portals and Dashboards

- The Map depicts the city with maximum number of branches.
- New York City has the highest number of branches that is 154.
- Chicago has the highest number of branches that is 119.
- Los Angeles has the highest number of branches that is 58.
- Indianapolis has the highest number of branches that is 49.
- San Francisco has the highest number of branches that is 42.
- According to the changing needs and growth rate for every city or state.
- Branch is either added or eliminated.



User and Task Analysis

1) Power Users:

Stakeholders, Business Analyst

Value: They take decision based on values derived such as customer loyalty and satisfaction, real-time business process analysis, customer or branch account detail etc.

Output Delivery: Complete Analysis of branch transaction fact and customer details dimension.

1) Executives:

Risk Analysts, Product Management

Value: Risk factors are analysed based on the risk for every customer portfolio, also the management takes into consideration where there is need for a new branch or shutting of the existing branch.

Output Delivery: Monthly report generated on risk, Branch growth details.

1) Operational Users:

Maintenance staff, Manager

Value: Customer or branch account detailing, customer complaints, Account maintenance.

Output Delivery: State Deposit Reports, Customer Reports, Customer complaint reports.





Thank You!