



GYM & FITNESS CENTER

DATA WAREHOUSING





PROJECT OVERVIEW

BUSINESS DOMAIN OVERVIEW

Gym and Fitness Center is a place where people go in order to do exercises and build up their bodies. It offers wide ranges of sport facilities, starting from basic exercising facility to satisfy the needs of the customers.



BUSINESS REQUIREMENTS

- ★ Show the total number of course usage of the each type.
- ★ Show the total number of equipment maintenance of each equipment type.
- ★ Show the total cost of the maintenance in dollar of each equipment type.
- ★ Show the total sales in dollar of each region, or each membership type.
- ★ Show the number of course sold of each region, or each membership type.

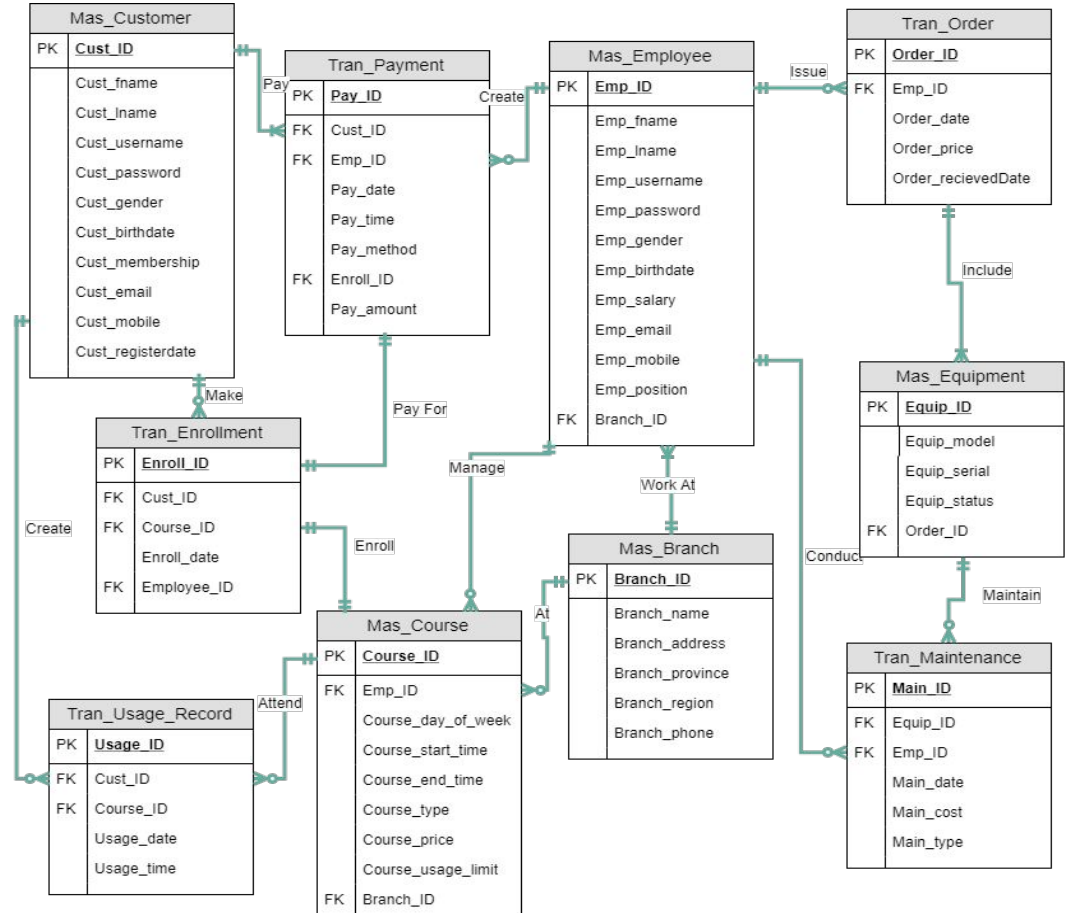
EXPECTED BENEFITS

- ★ Gain insight on popular course type usage to provide more or less courses on each type.
- ★ Compare durability of each equipment model, allowing better decision on future purchases of equipment in order to minimize maintenance cost.
- ★ Get useful details on sales and source of revenue each branch, region, or different courses or membership type.
- ★ Better decision on future course advertisement and target advertisement audiences on popular courses or membership type.



OLTP DATABASE DESIGN

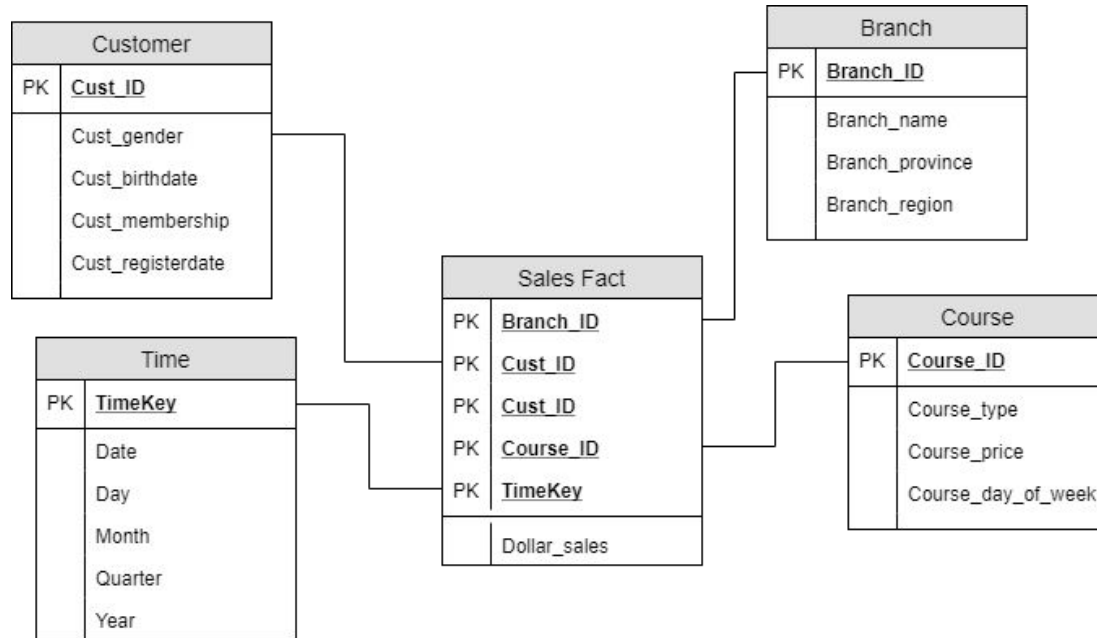
ERD OF GYM & FITNESS CENTER OLTP DATABASE



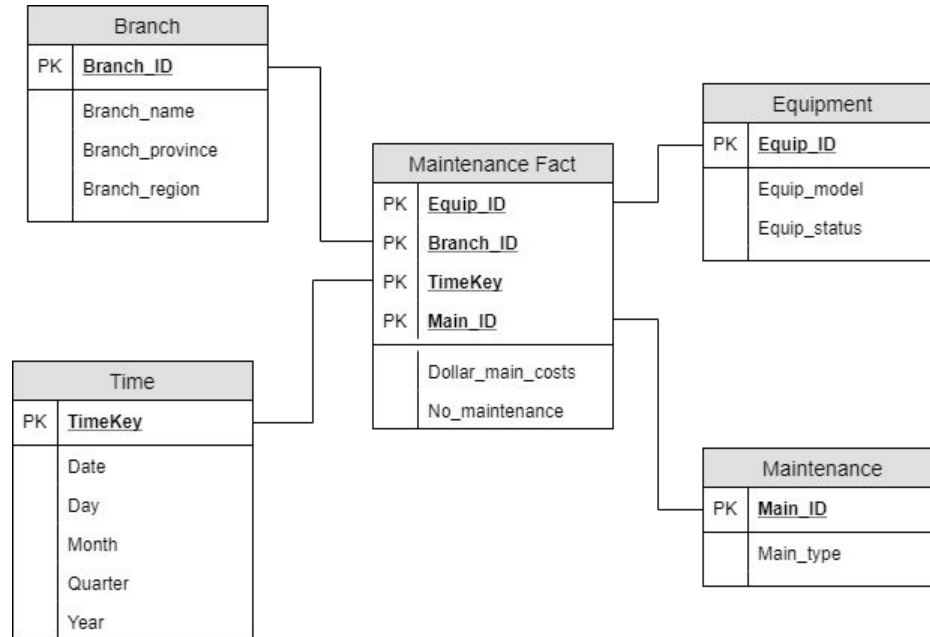


OLAP DATABASE DESIGN

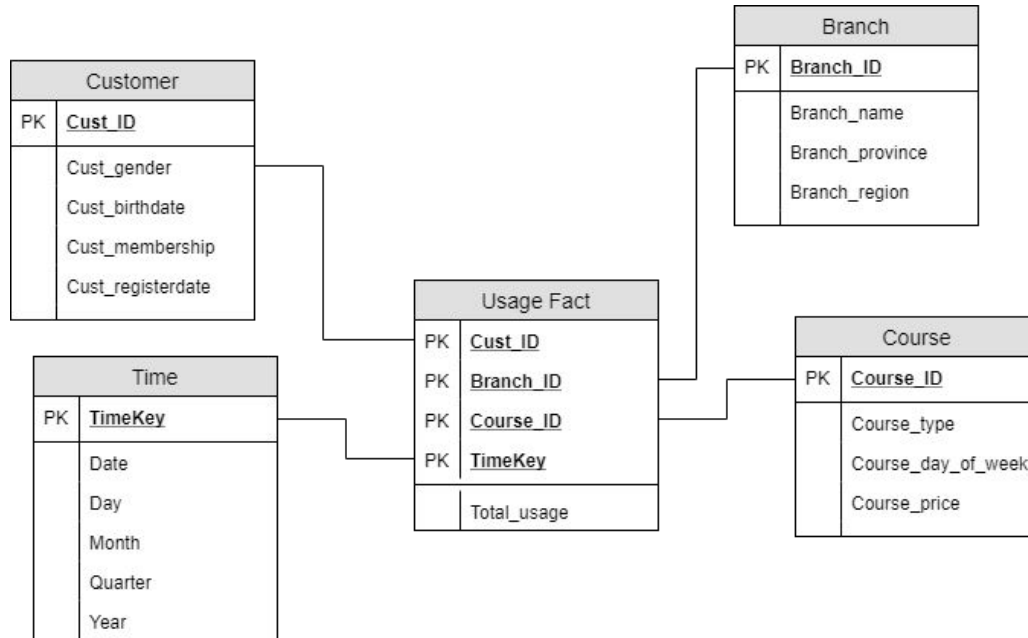
SALES FACT STAR SCHEMA



MAINTENANCE FACT STAR SCHEMA

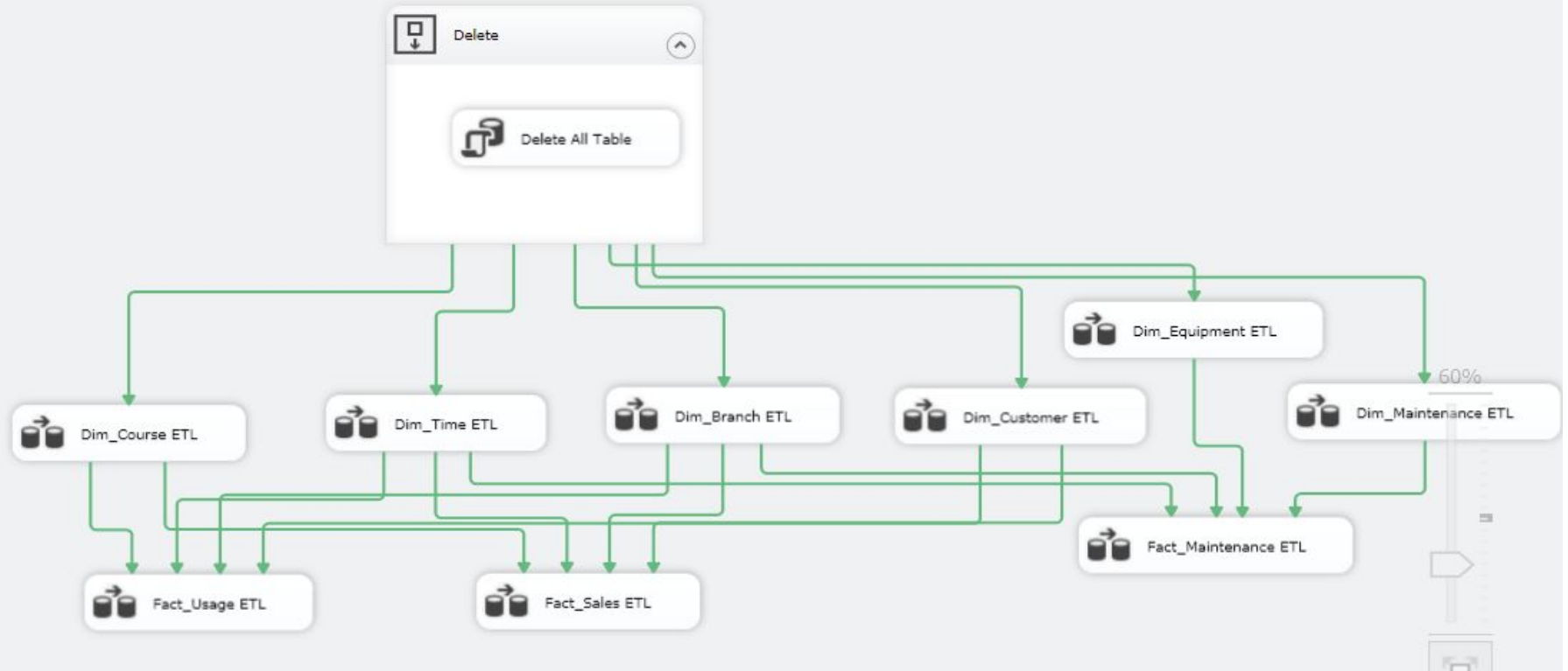


USAGE FACT STAR SCHEMA

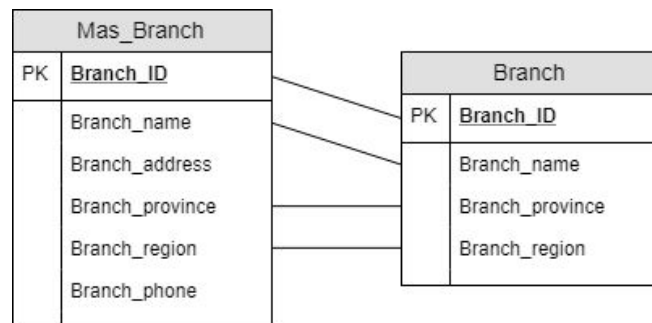
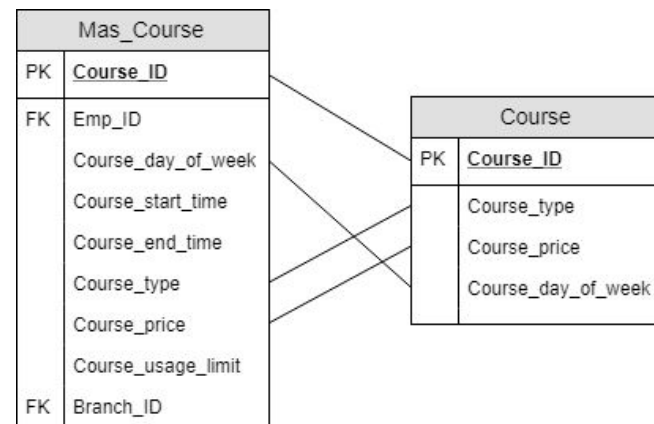
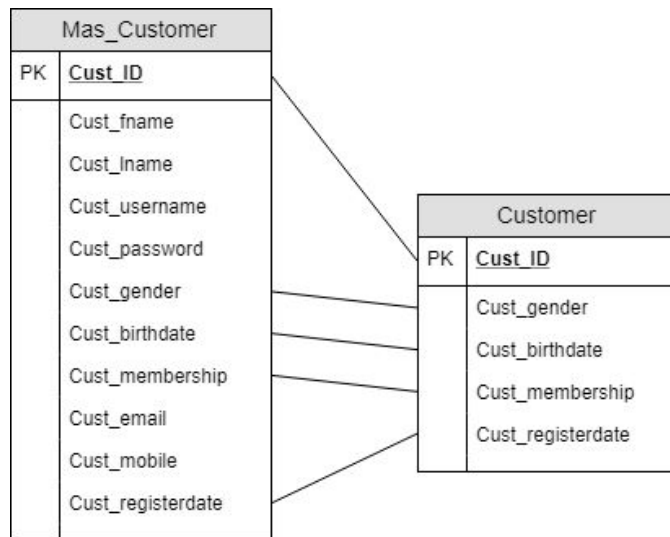


ETL PROCESS

ETL Process



MAPPINGS



MAPPINGS

Mas_Equipment	
PK	<u>Equip_ID</u>
	Equip_model
	Equip_serial
	Equip_status
FK	Order_ID

Equipment	
PK	<u>Equip_ID</u>
	Equip_model
	Equip_status

Tran_Maintenance	
PK	<u>Main_ID</u>
FK	Equip_ID
FK	Emp_ID
	Main_date
	Main_cost
	Main_type

Maintenance	
PK	<u>Main_ID</u>
	Main_type

Tran_Maintenance	
PK	<u>Main_ID</u>
FK	Equip_ID
FK	Emp_ID
	Main_date
	Main_cost
	Main_type

Tran_Usage_Record	
PK	<u>Usage_ID</u>
FK	Cust_ID
FK	Course_ID
	Usage_date
	Usage_time

Tran_Payment	
PK	<u>Pay_ID</u>
FK	Cust_ID
FK	Emp_ID
	Pay_date
	Pay_time
	Pay_method
FK	Enroll_ID
	Pay_amount

Union and Derive Columns

Time	
PK	<u>TimeKey</u>
	Date
	Day
	Month
	Quarter
	Year

MAPPINGS

Tran_Maintenance	
PK	<u>Main_ID</u>
FK	Equip_ID
FK	Emp_ID
	Main_date
	Main_cost
	Main_type

Maintenance Fact	
PK	<u>Equip_ID</u>
PK	<u>Branch_ID</u>
PK	<u>TimeKey</u>
PK	<u>Main_ID</u>
	Dollar_main_costs
	No_maintenance

Derived Measure

Tran_Payment	
PK	<u>Pay_ID</u>
FK	Cust_ID
FK	Emp_ID
	Pay_date
	Pay_time
	Pay_method
FK	Enroll_ID
	Pay_amount

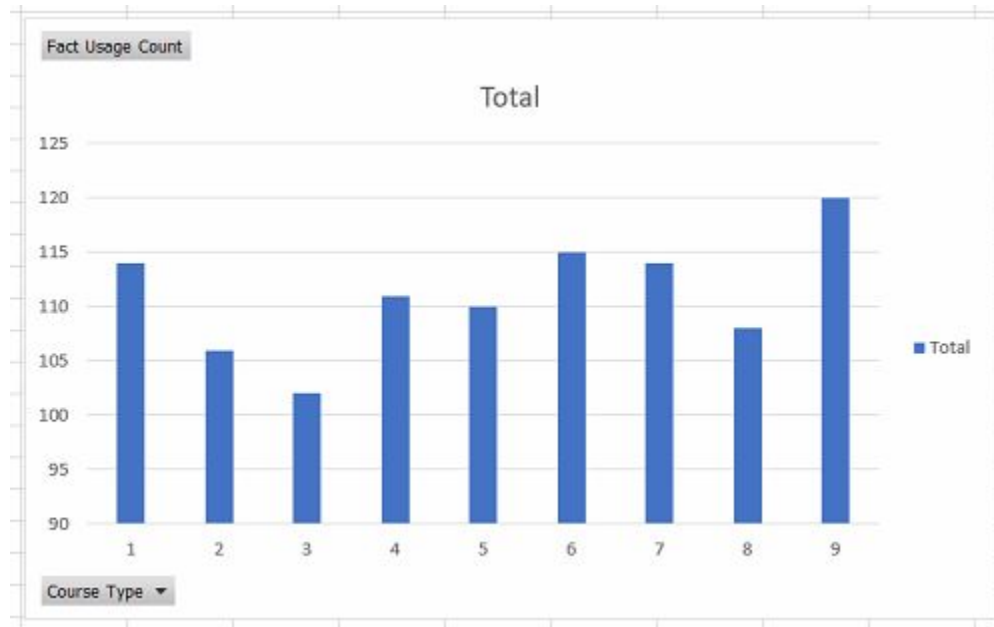
Sales Fact	
PK	<u>Branch_ID</u>
PK	<u>Cust_ID</u>
PK	<u>Course_ID</u>
PK	<u>TimeKey</u>
	Dollar_sales

Usage Fact	
PK	<u>Cust_ID</u>
PK	<u>Branch_ID</u>
PK	<u>Course_ID</u>
PK	<u>TimeKey</u>
	Total_usage

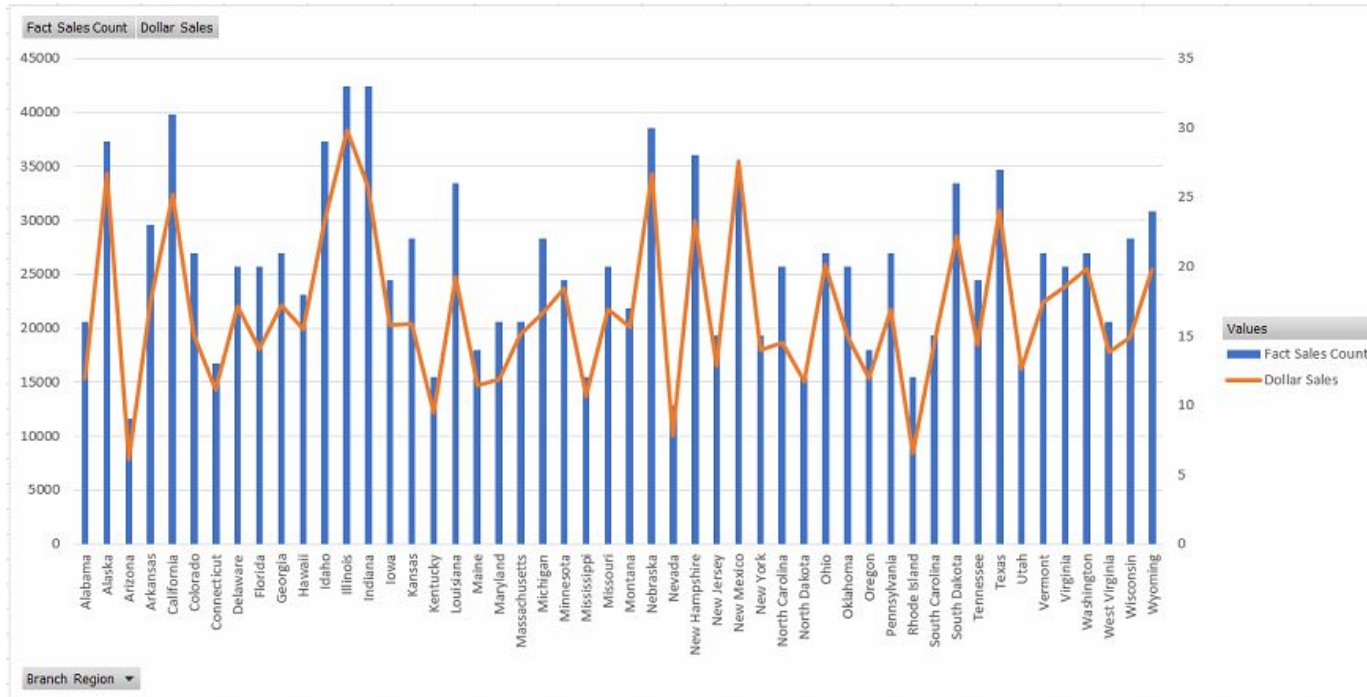
Derived Measure

ANALYSIS

Usage Fact Table



Sales Fact Table



Maintenance Fact Table



Maintenance Fact Table

