BICYCLE SALES ANALYTICS USING IBM COGNOS SMART INTERNZ GUIDED PROJECT

19BLC1120
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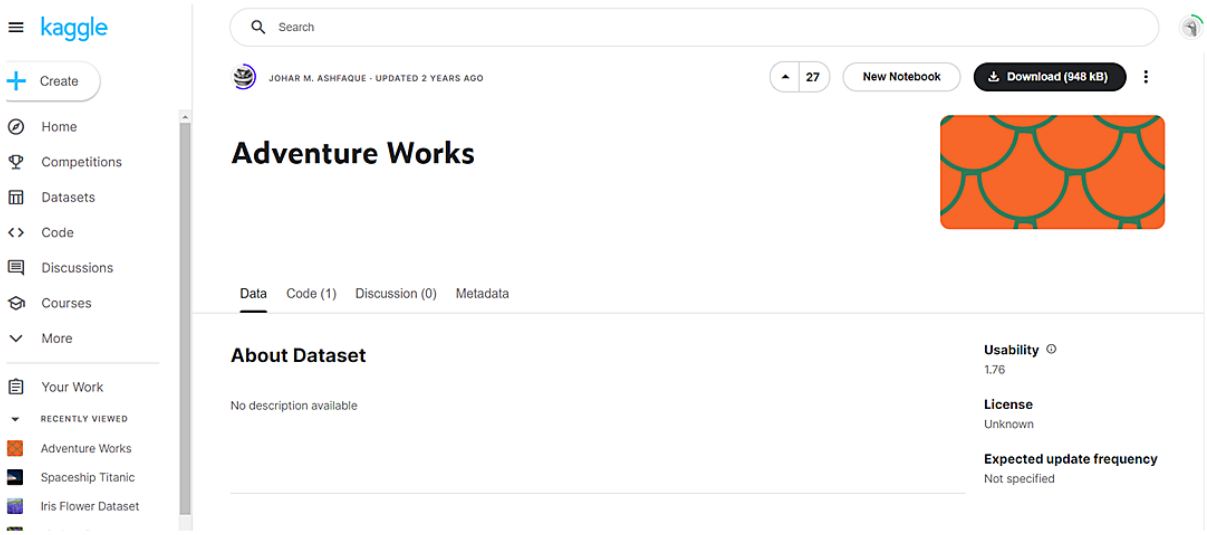
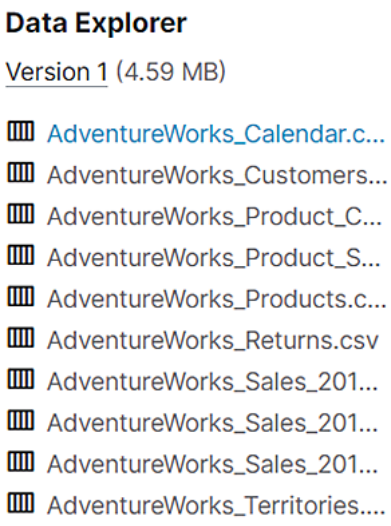
AIM: To gather 10 CSV files from the Kaggle Adventure works repository regarding the bicycle sales and customer data and perform data preparation and visualizations to observe the trends existing in the data and represent them on a dashboard.

SCREENSHOTS:

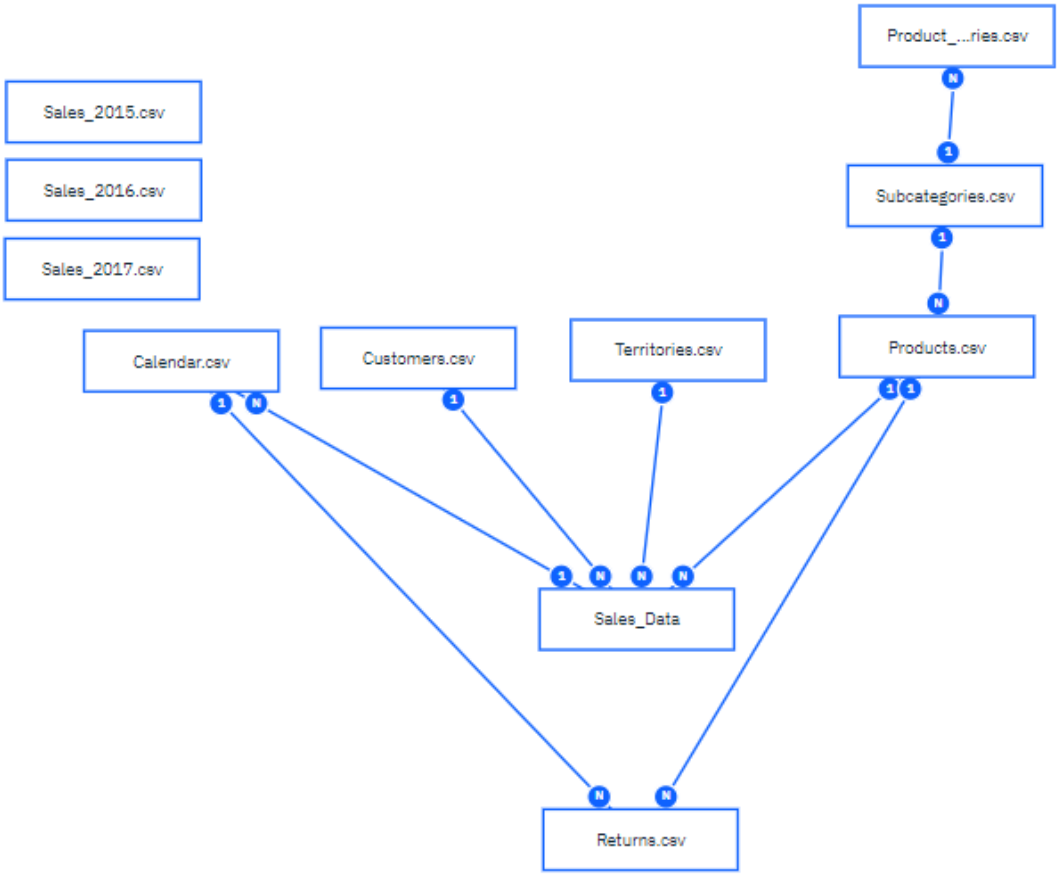
Kaggle Adventure Works Repository:



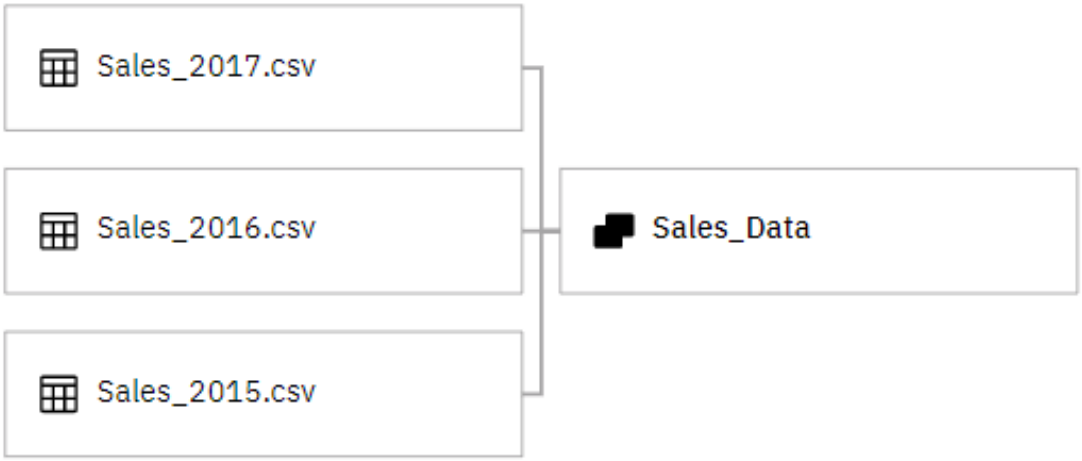
List of 10 CSV files part of Adventure Works Bicycle Sales data:



Cardinality and relationship existing between different tables:



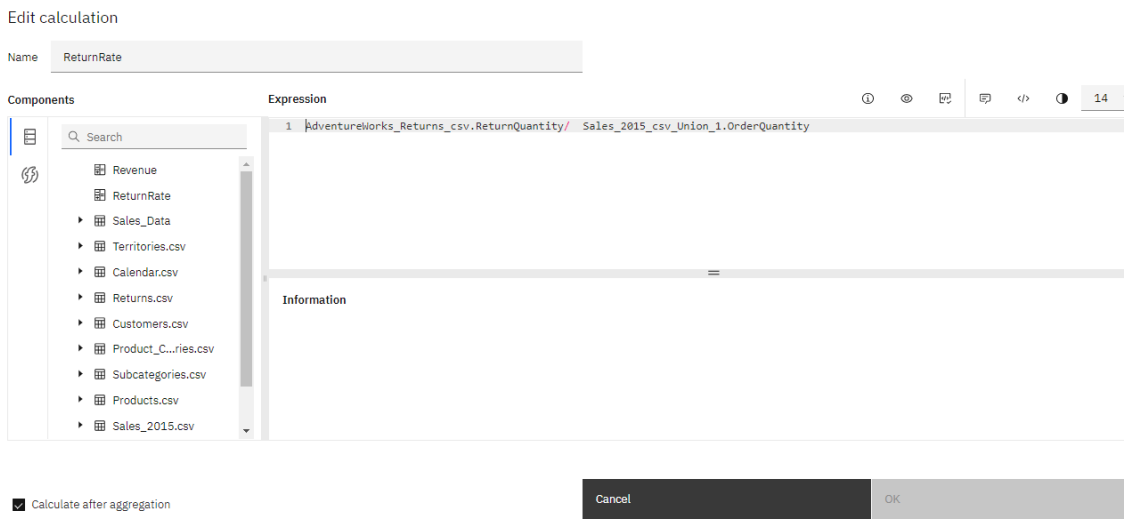
Custom made Sales_Data table using Sales_2017,Sales_2016 and Sales_2015 as source tables:



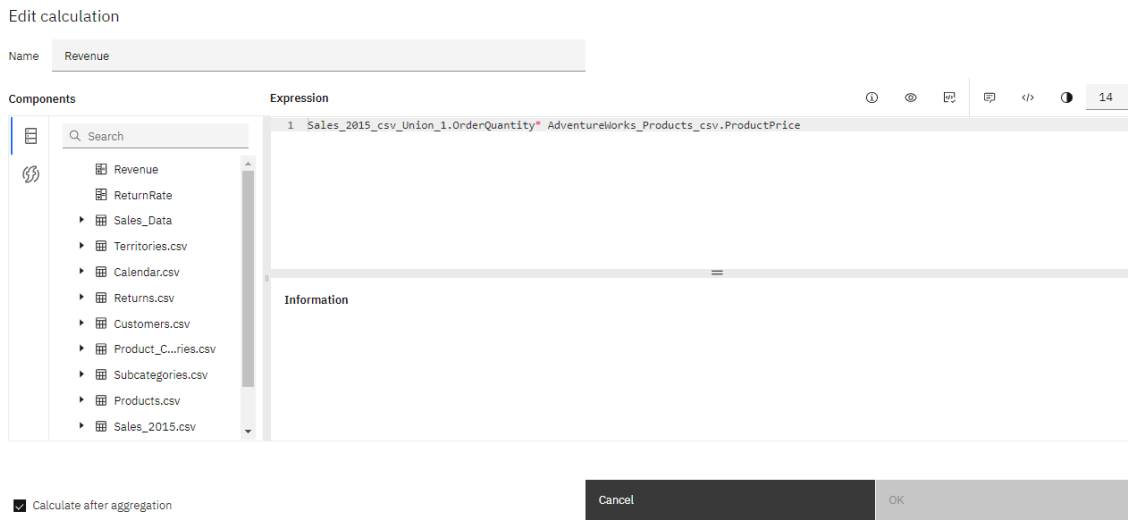
Sales_Data Table:

↑↓	Row Id	OrderDate	StockDate	OrderNumber	ProductKey	CustomerKey	TerritoryKey	OrderLineItem	Orde
	1	2015-01-01	2001-09-21	SO45080	332	14657	1	1	1
	9	2015-01-03	2001-10-03	SO45093	312	18906	9	1	1
	10	2015-01-03	2001-09-29	SO45090	310	29170	4	1	1
	21	2015-01-04	2001-12-20	SO45099	312	29174	1	1	1
	23	2015-01-05	2001-11-21	SO45100	326	19428	8	1	1
	26	2015-01-06	2001-10-01	SO45108	310	22975	6	1	1
	31	2015-01-07	2001-11-05	SO45109	311	14937	10	1	1
	33	2015-01-07	2001-11-09	SO45111	326	25713	9	1	1
	35	2015-01-08	2001-12-14	SO45119	314	18740	9	1	1
	37	2015-01-08	2001-11-24	SO45116	311	29204	1	1	1
	41	2015-01-08	2001-11-11	SO45113	313	29141	4	1	1
	50	2015-01-10	2001-12-26	SO45126	311	12480	7	1	1
	52	2015-01-11	2001-11-30	SO45130	313	14975	10	1	1
	58	2015-01-11	2001-09-14	SO45131	344	25979	1	1	1
	61	2015-01-12	2001-12-25	SO45143	310	29278	4	1	1
	69	2015-01-13	2001-09-25	SO45146	310	14950	10	1	1
	72	2015-01-14	2001-11-27	SO45151	314	29202	1	1	1

ReturnRate calculation:



Revenue Calculation



Dashboard Tab 1: Text tables representing top 12 Products with highest returns, Highly sold products by quantity and Revenue obtained by selling the products:

Top Return Products

ProductName	OrderQuantity	ReturnQuantity	ReturnRate
Road-650 Red, 52	51	6	11.76%
Mountain-100 Silver, 44	24	2	8.33%
Touring-2000 Blue, 46	96	8	8.33%
Mountain-500 Black, 52	41	3	7.32%
Mountain-100 Black, 44	31	2	6.45%
Mountain-100 Black, 48	36	2	5.56%
Touring-3000 Blue, 54	54	3	5.56%
Road-650 Red, 48	75	4	5.33%
Mountain-500 Silver, 44	38	2	5.26%
Road-650 Red, 60	39	2	5.13%
Classic Vest, S	157	8	5.10%
Women's Mountain Shorts, L	334	17	5.09%
Touring-3000 Yellow, 44	59	3	5.08%
Road-150 Red, 44	139	7	5.04%
Summary	1,174	69	6.05%

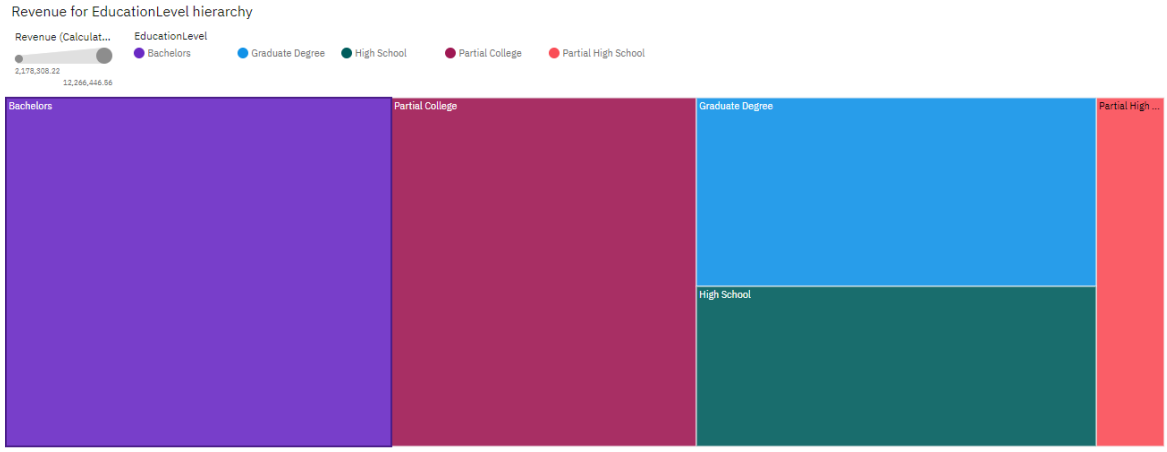
Top 3 Quantity

ProductName	OrderQuantity
Water Bottle - 30 oz.	7,967
Patch Kit/8 Patches	5,898
Mountain Tire Tube	5,678
Summary	19,543

Top 3 Revenue

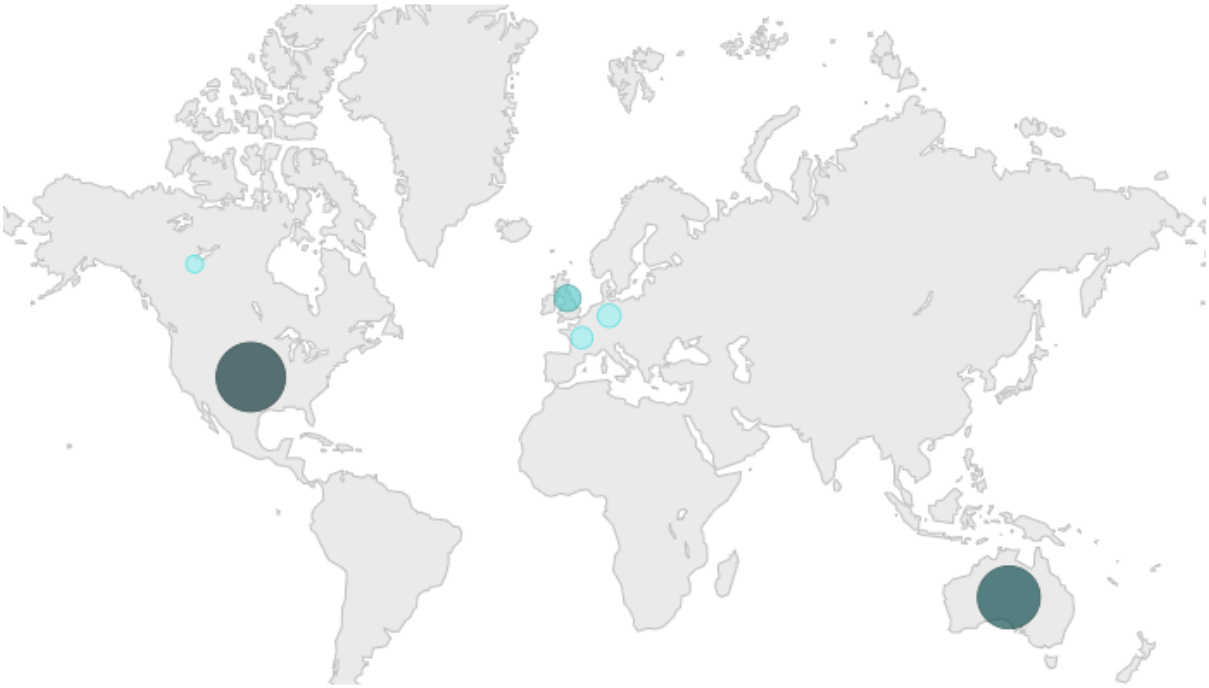
ProductName	Revenue
Mountain-200 Black, 46	1,241,753.51
Mountain-200 Black, 42	1,233,557.12
Mountain-200 Silver, 38	1,213,851.89
Summary	3,689,162.51

Dashboard Tab-2: Tree map representing revenue for the individuals according to their education levels

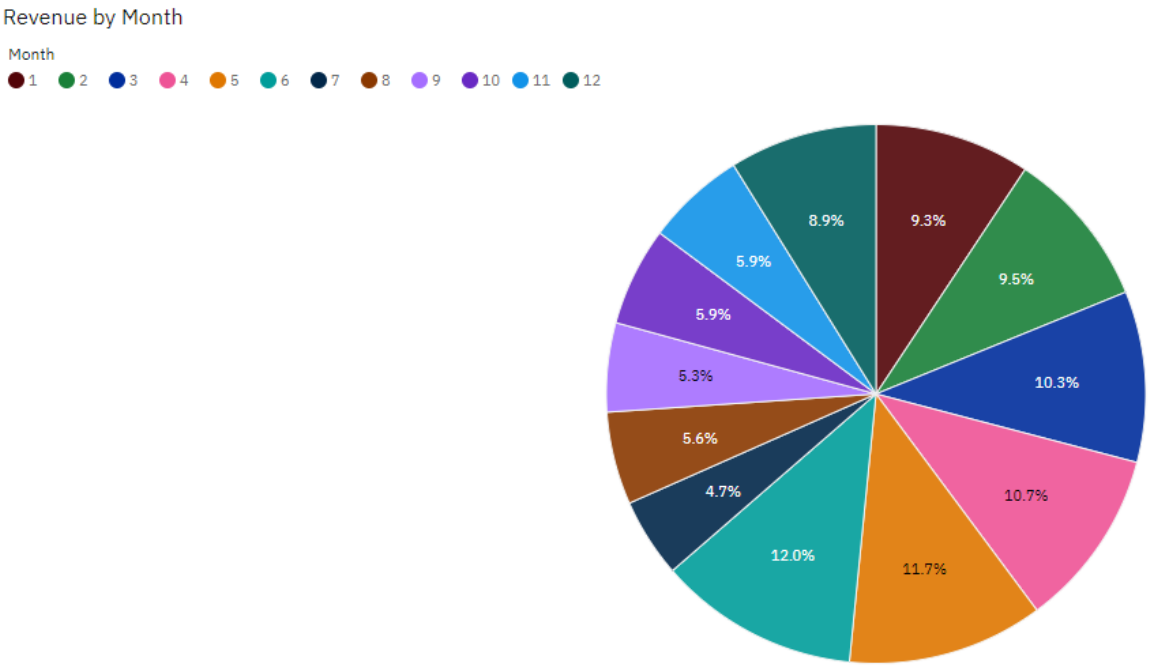


Dashboard Tab 3: Map representing top 3 countries with highest revenues:

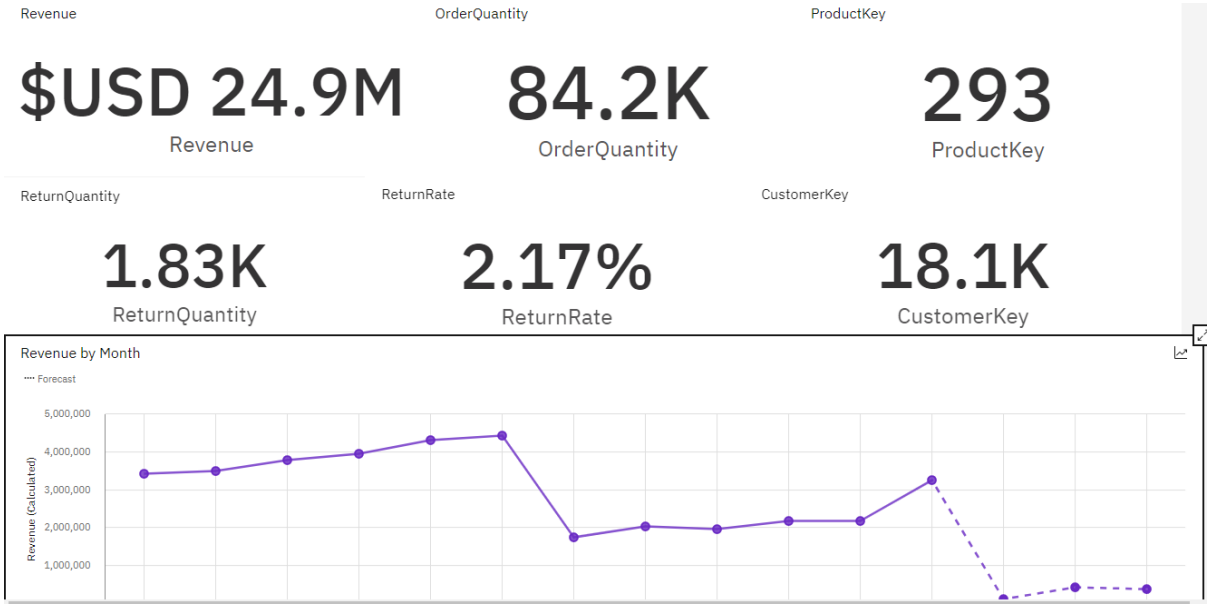
Dashboard Tab 4: Map representing revenue for each country point:



Dashboard Tab 5: Pie chart representing revenue for each month:



Dashboard Tab 6: Cards representing total revenue , number of products ordered, return quantity, rate of returns, total number of products and total number of customers. Line graph representing the revenue for each month along with future revenue prediction using forecasting:



Video link:

https://drive.google.com/file/d/1rQ69EfHZC32_5UmpneySeGWS4CxpGATM/view?usp=sharing

RESULT:

Thus the bicycle sales data analysis guided project has been successfully completed using IBM Cognos.