Data Warehousing and Business Intelligence

IT3021

Assignment 2

Delivery Center: Food & Goods orders in Brazil

2022

IT20220860
Karawita K.S.A

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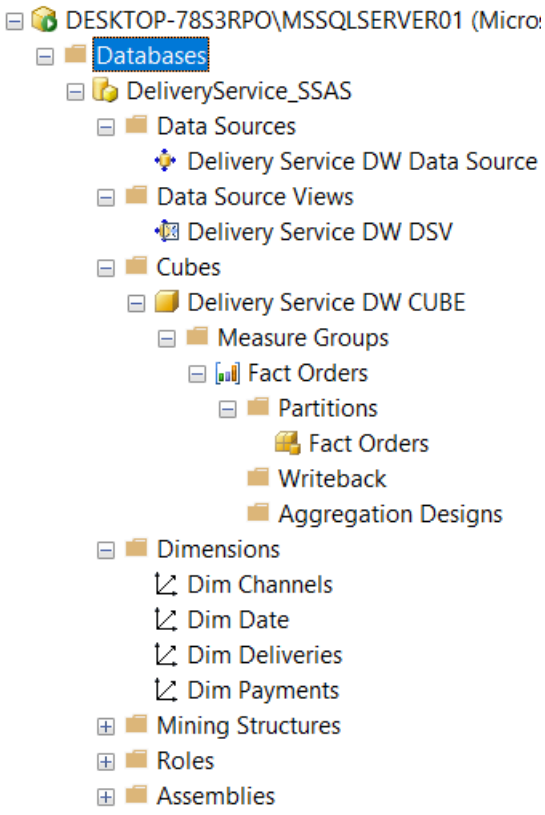
Step 1: Data source for the assignment 2

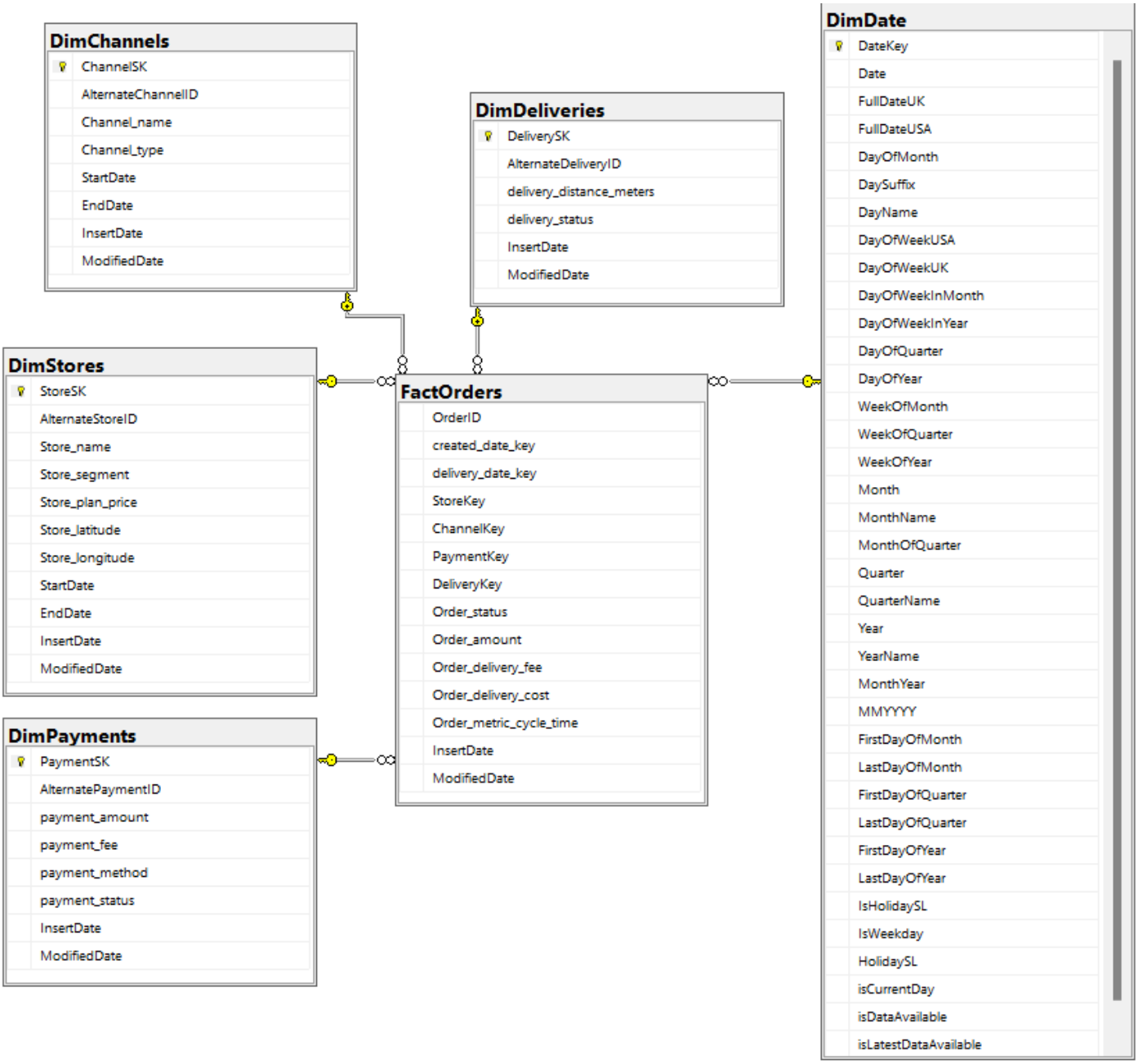
I have used the same data warehouse I implemented and loaded with data in assignment 1 as the data source for the assignment 2

https://www.kaggle.com/datasets/nosbielcs/brazilian-delivery-center

The Delivery Center is a platform that integrates retailers and marketplaces, creating a healthy ecosystem for sales of goods and food in Brazilian retail. I currently have a register with more than 14000 records. Thousands of orders and deliveries are processed daily with a network of thousands of merchants and delivery partners spread across all country regions.



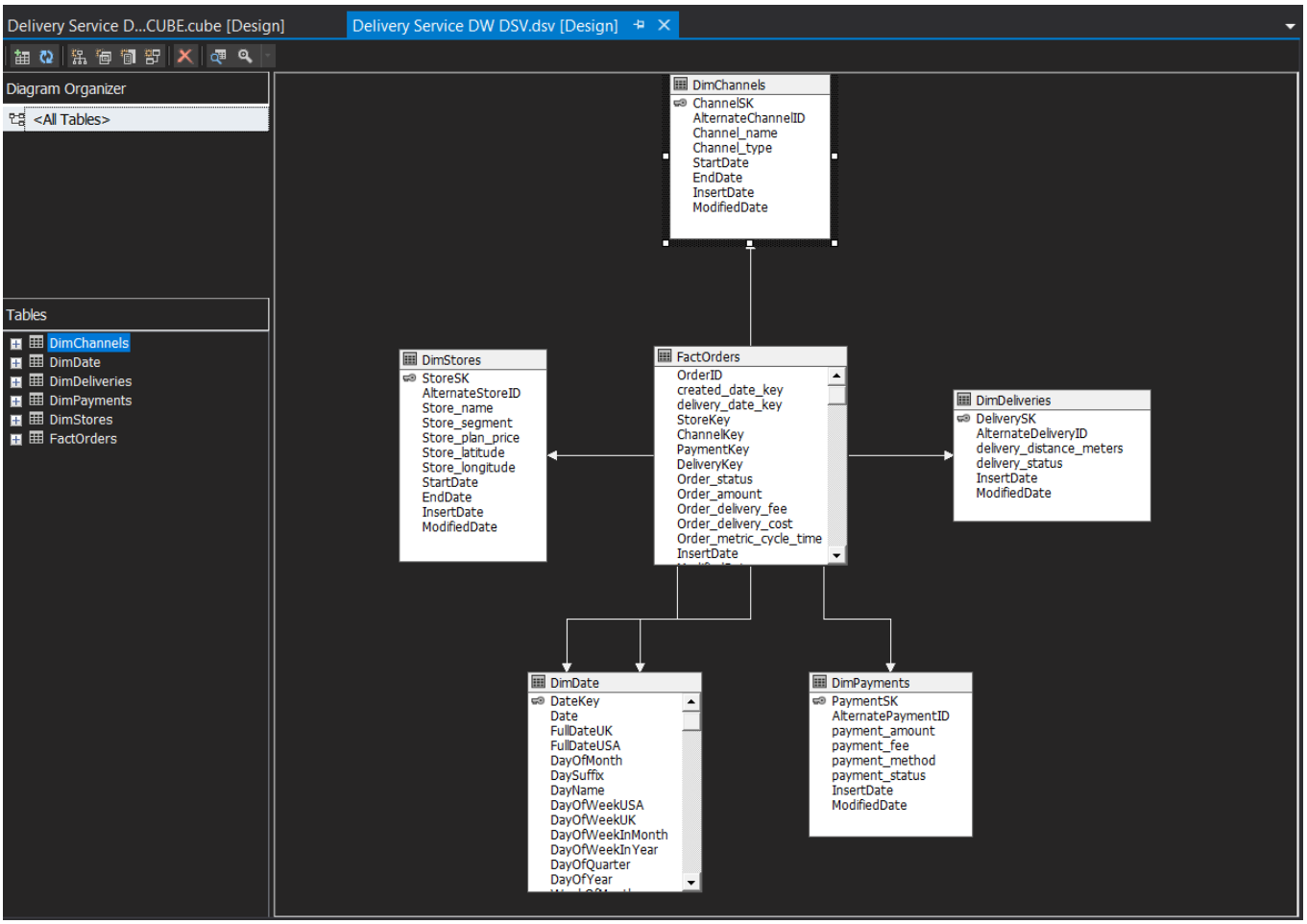
ER Diagram from SSMS



Step 2: SSAS Cube implementation

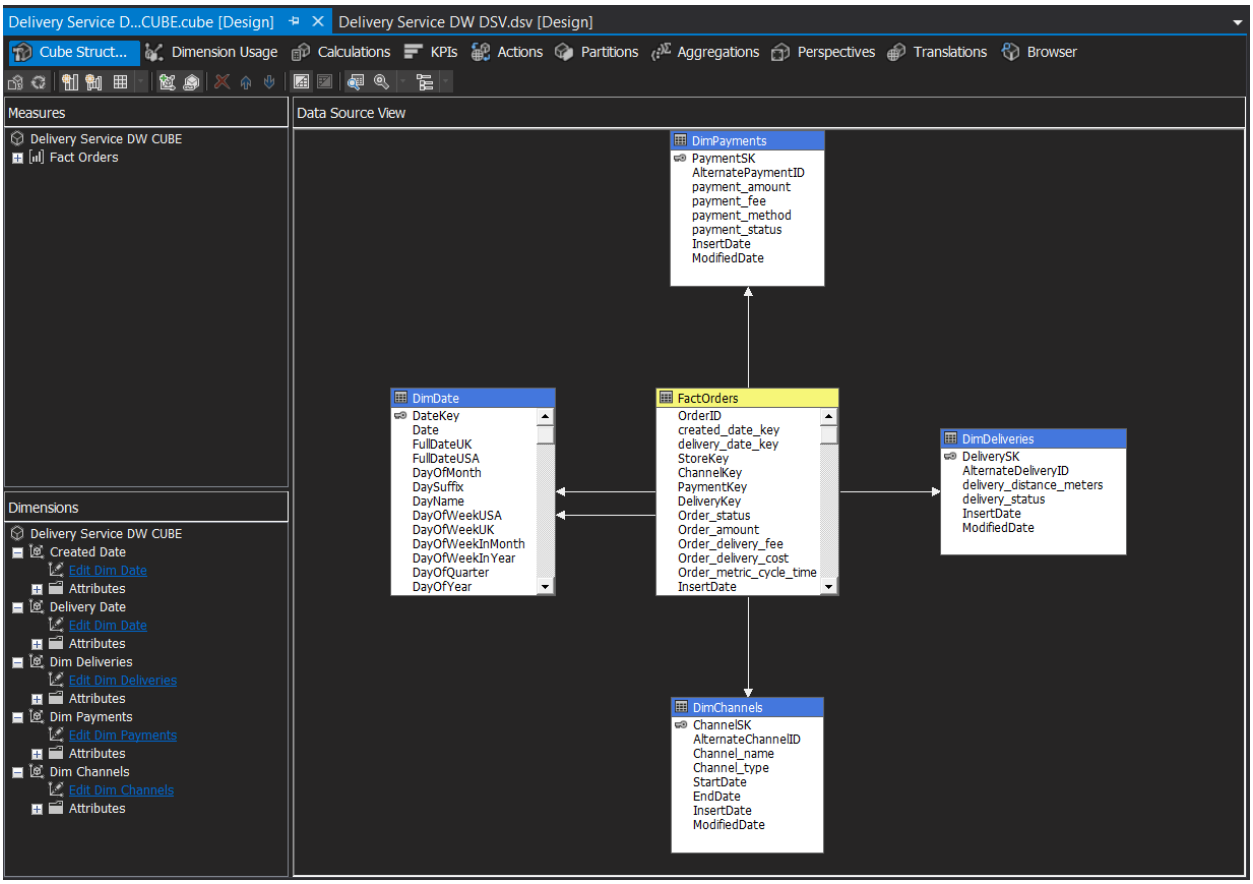
Data Source View Diagram

The data source view created using the data source imported from the DeliveryService_DW data warehouse.

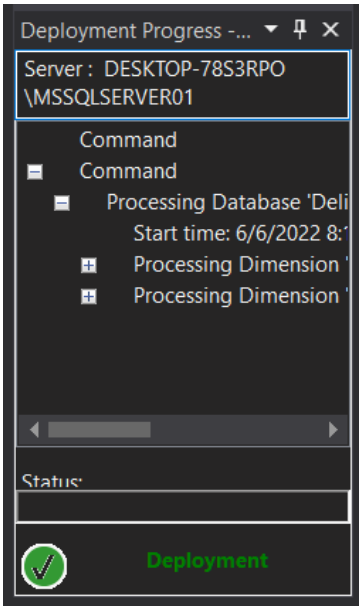


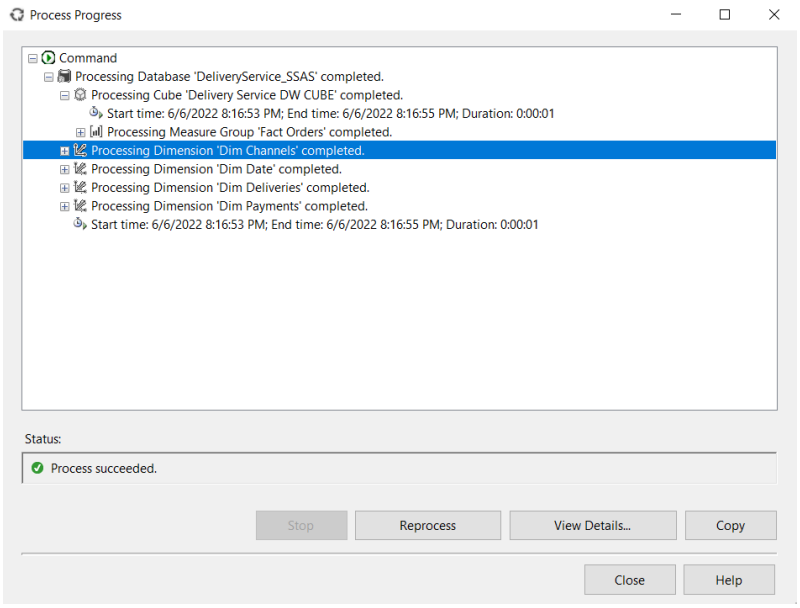
Data CUBE Diagram

Data CUBE is created using the Data Source View implemented previously.



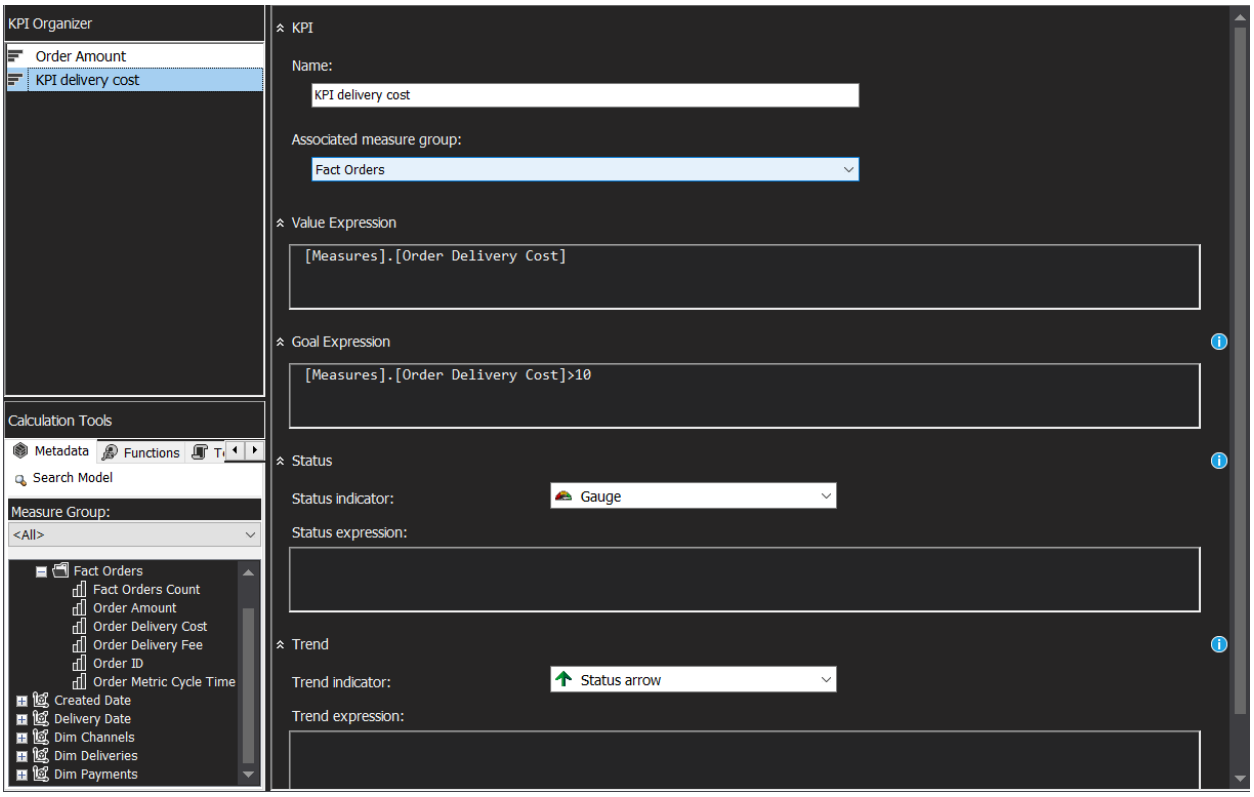
Deployment and processing the CUBE





Creating the KPI for the analysis process.

Using this KPI we can filter records with a order delivery cost higher than 10.0000 to further stages of analysis.



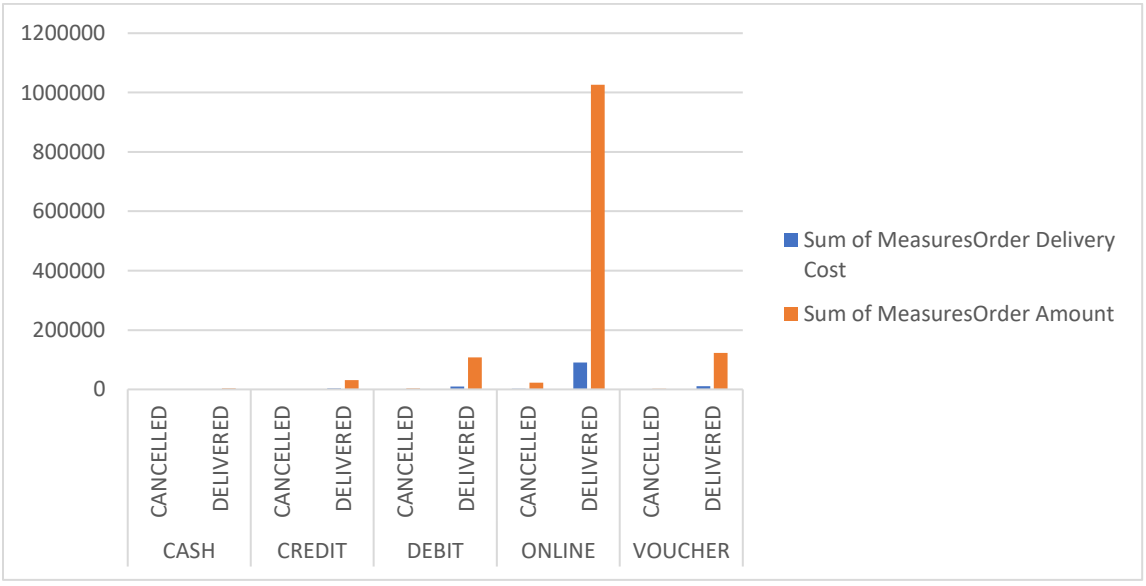
Payment Method	Month Name	Delivery Status	KPI delivery cost Goal	Fact Orders Count	Order Amount	Order Delivery Cost
CASH	April	CANCELLED	False	(null)	(null)	(null)
CASH	April	DELIVERED	False	(null)	(null)	(null)
CASH	April	Unknown	False	(null)	(null)	(null)
CASH	August	CANCELLED	False	(null)	(null)	(null)
CASH	August	DELIVERED	True	3	129.1000022...	21.6199998855591
CASH	August	Unknown	False	(null)	(null)	(null)
CASH	December	CANCELLED	False	(null)	(null)	(null)
CASH	December	DELIVERED	False	(null)	(null)	(null)
CASH	December	Unknown	False	(null)	(null)	(null)
CASH	February	CANCELLED	False	2	220.1999969...	8.8100004196167
CASH	February	DELIVERED	True	5	406.7000045...	50.1599998474121
CASH	February	Unknown	False	(null)	(null)	(null)
CASH	January	CANCELLED	False	(null)	(null)	(null)
CASH	January	DELIVERED	False	(null)	(null)	(null)
CASH	January	Unknown	False	(null)	(null)	(null)

Step 3: Demonstration of OLAP operations

Roll-Up

We can obtain the sum of order amounts and the sum of delivery costs of a corresponding payment methods used by customers according to the delivery status of the deliveries.

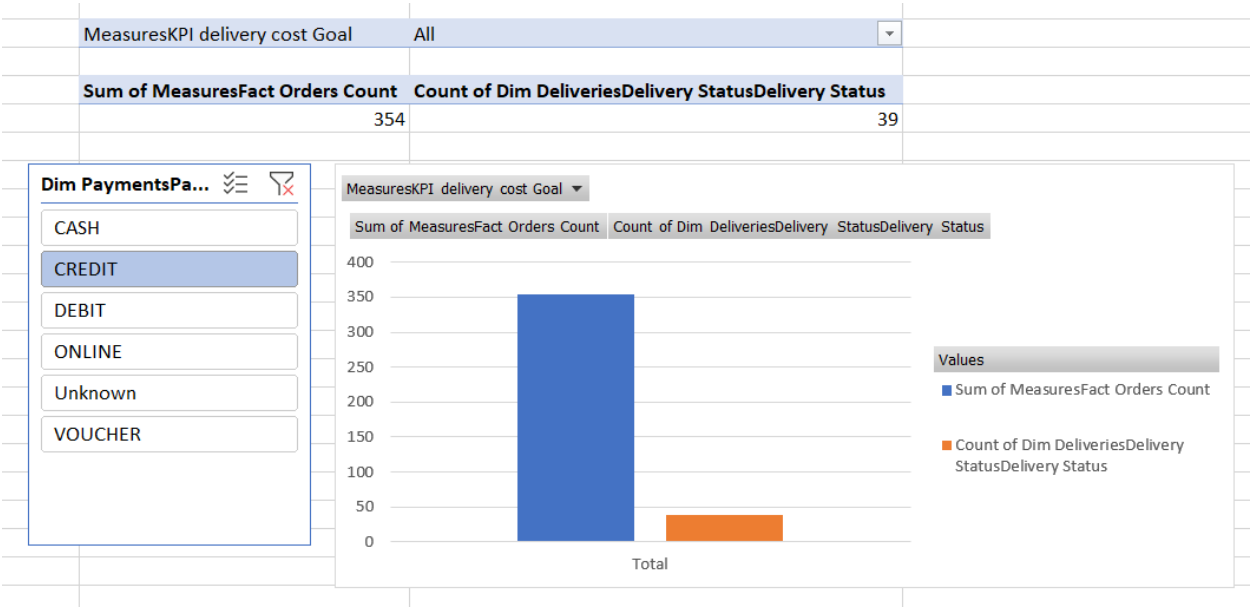
A	B	C
MeasuresKPI delivery cost Goal	All	
Row Labels	**Sum of MeasuresOrder Delivery Cost**	**Sum of MeasuresOrder Amount**
CASH		
CANCELLED	17.31000042	262.9999962
DELIVERED	268.3300004	3473.929979
CREDIT		
CANCELLED	56.86000061	585.5
DELIVERED	2865.829999	31336.82015
DEBIT		
CANCELLED	255.0499995	2851.049995
DELIVERED	9348.659995	107422.4003
ONLINE		
CANCELLED	1801.460002	22520.85998
DELIVERED	90999.22995	1026612.332
VOUCHER		
CANCELLED	192.0199976	2141.839977
DELIVERED	10590.76999	122553.12
Grand Total	**116395.5199**	**1319760.853**



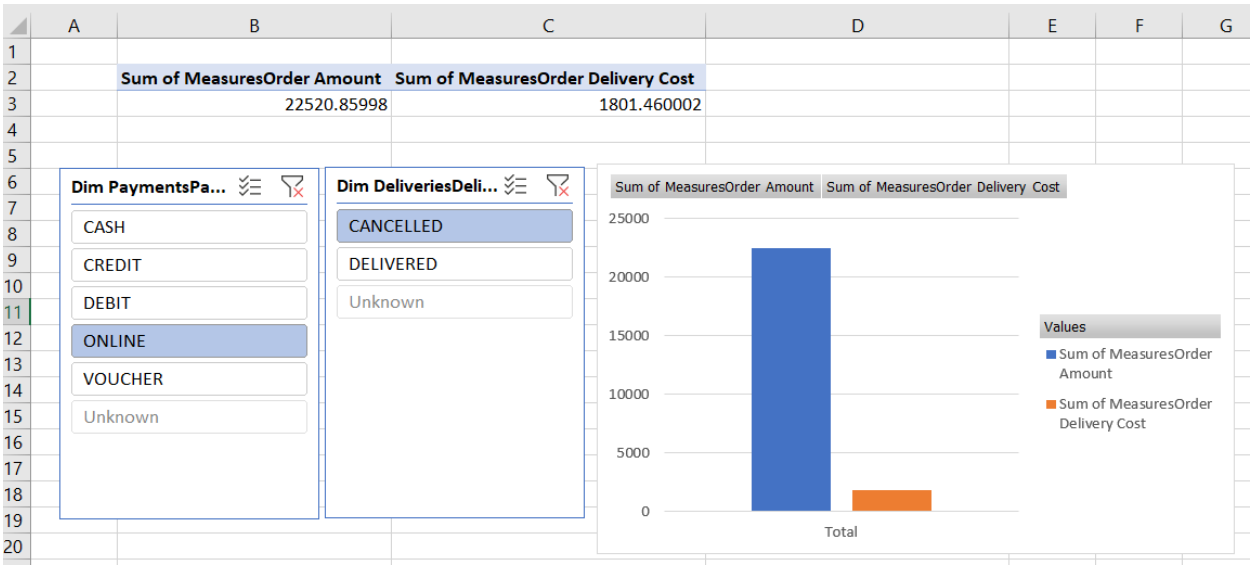
Drill-Down

Slice

This gives us the counts of orders and deliveries according to the delivery statuses of corresponding deliveries.



Dice



Step 4: SSRS Reports

References

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https://www.sqlservercentral.com/forums/topic/cube-process-failure-is-there-a-way-to-process-dimensions-before-the-cubes-automatically

Thank You