**Airport X – Appendix**

**Steps:**

1. Understand the data base
2. Think about question that will help the company.

* **What are the characteristics of products with good selling?**
* Which category?

with cnt\_sale\_by\_product as (

select ["ProductID"], sum(["Quantity"]) sum\_p

from [dbo].[DsSix\_SaleItem]

group by ["ProductID"]

),

cat\_product as (

select productid , category

from [dbo].[DsSix\_product]

)

select top 10 category, COUNT(distinct productid)\*sum(sum\_p) cnt

from cat\_product t

join cnt\_sale\_by\_product c

on t.productid = c.["ProductID"]

group by category

order by cnt desc

* Which gender?

with cnt\_sale\_by\_product as (

select ["ProductID"], sum(["Quantity"]) sum\_p

from [dbo].[DsSix\_SaleItem]

group by ["ProductID"]

),

gender\_product as (

select productid, gender

from [dbo].[DsSix\_product]

)

select gender, COUNT(distinct productid)\*sum(sum\_p) cnt

from gender\_product t

join cnt\_sale\_by\_product c

on t.productid = c.["ProductID"]

group by gender

order by cnt desc

* What are made of?

with cnt\_sale\_by\_product as (

select ["ProductID"], sum(["Quantity"]) sum\_p

from [dbo].[DsSix\_SaleItem]

group by ["ProductID"]

),

compos\_of\_product as (

select productid, composition

from [dbo].[DsSix\_product]

)

select top 10 composition, COUNT(distinct productid)\*sum(sum\_p) cnt

from compos\_of\_product t

join cnt\_sale\_by\_product c

on t.productid = c.["ProductID"]

group by composition

order by cnt desc

* Popular brand? (need filter)

with cnt\_sale\_by\_product as (

select ["ProductID"], sum(["Quantity"]) sum\_p

from [dbo].[DsSix\_SaleItem]

group by ["ProductID"]

),

brand\_product as (

select productid , manufacturername brand\_

from [dbo].[DsSix\_product] p

join [dbo].[DsSix\_Manufacturer] m

on p.manufacturerid = p.manufacturerid

)

select brand\_, COUNT(distinct productid)\*sum(sum\_p) cnt

from brand\_product t

join cnt\_sale\_by\_product c

on t.productid = c.["ProductID"]

group by brand\_

order by cnt desc

* Which sizes have more demand?

select ["ItemSize"], sum(["Quantity"]) sum\_unit

from [dbo].[DsSix\_SaleItem]

group by ["ItemSize"]

order by sum\_unit desc

* **In what period are more sales?**
* The selling is alike in every year?

select year(cast(replace(["SaleDate"],'"','') as date)) year\_ ,month(cast(replace(["SaleDate"],'"','') as date)) month\_ , COUNT(distinct ["SaleID"]) cnt

from [dbo].[DsSix\_Sale]

group by year(cast(replace(["SaleDate"],'"','') as date)), month(cast(replace(["SaleDate"],'"','') as date))

order by year\_, month\_

* What is the standard deviation by month?

select STDEV(cnt) "standard deviation"

from (

select year(cast(replace(["SaleDate"],'"','') as date)) year\_ ,month(cast(replace(["SaleDate"],'"','') as date)) month\_ , COUNT(distinct ["SaleID"]) cnt

from [dbo].[DsSix\_Sale]

group by year(cast(replace(["SaleDate"],'"','') as date)), month(cast(replace(["SaleDate"],'"','') as date))

)q1

--where year\_ <> 2013  
as seeing in the graph that this year have very low sales

* **What are the products that we need always keep in stock?**
* Which products sell the most?

select ["ProductID"],["ItemSize"], sum(["Quantity"]) sum\_unit

from [dbo].[DsSix\_SaleItem]

group by ["ProductID"],["ItemSize"]

* For each one check if there enough in stock

with cnt\_sale\_by\_product as (

select ["ProductID"],["ItemSize"], sum(["Quantity"]) sum\_unit

from [dbo].[DsSix\_SaleItem]

group by ["ProductID"],["ItemSize"]

),

demand\_by\_product as (

select i.["ProductID"], i.["ItemSize"],

["QtyOnHand"]-sum\_unit as demand -- Shows the demand roughly

from [dbo].[DsSix\_inventoryItem] i

join cnt\_sale\_by\_product c

on i.["ProductID"] = c.["ProductID"] and i.["ItemSize"] = c.["ItemSize"]

)

select productname, ["ItemSize"], demand

from demand\_by\_product d

join [dbo].[DsSix\_product] p

on d.["ProductID"] = p.productid

order by demand

1. Move all the info to excel, and make graphs
2. Seeing some details that need fix, so came back to SQL and fix them.
3. At the end, start to write the report itself, and adding some graph for easy understand the information.