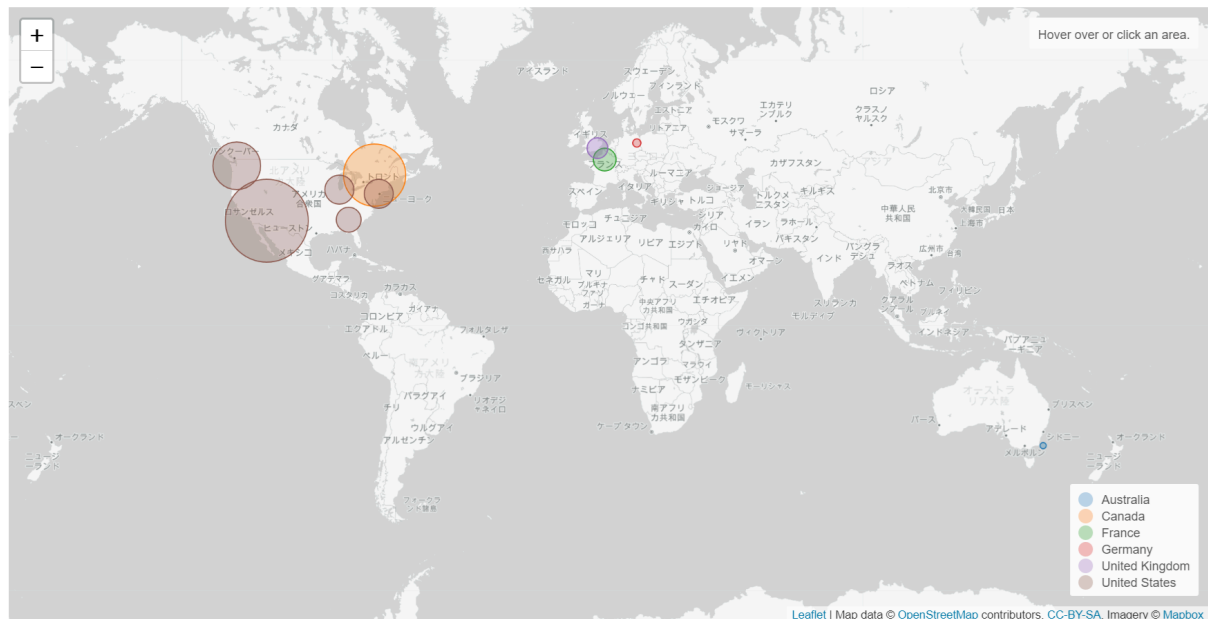


Total Sales per Country Graphic:

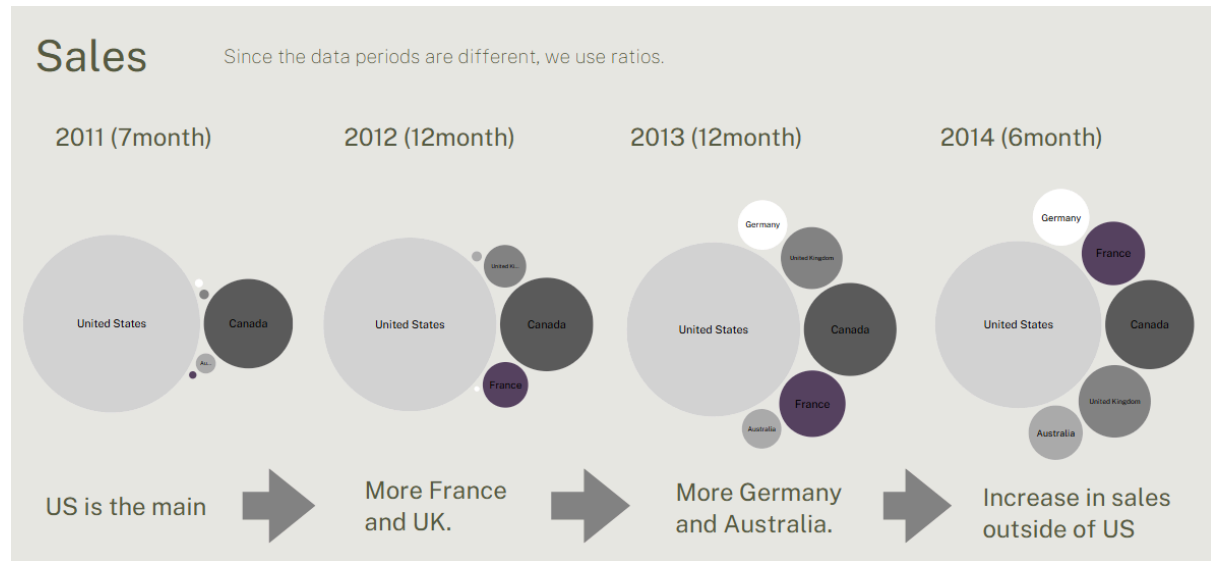


```
-- Total profit, sales amount and percentage by country with temporary table creation
with
ProfitsPerCountry_CTE
as
(
    select SUM(sod.LineTotal) - (pp.StandardCost * sum(sod.OrderQty)) AS TotalProfit, pcr.Name,
    SUM(SubTotal) AS TotalSales
    from Sales.SalesOrderDetail sod
    join Production.Product pp
    on pp.ProductID=sod.ProductID
    join Sales.SalesOrderHeader soh
    on soh.SalesOrderID=sod.SalesOrderID
    join Sales.Customer c
    on c.CustomerID=soh.CustomerID
    join Person.person p
    on c.PersonID=p.BusinessEntityID
    join Person.Address pa
    on pa.AddressID=soh.ShipToAddressID
    join Person.StateProvince psp
    on psp.StateProvinceID=pa.StateProvinceID
    join Person.CountryRegion pcr
    on psp.CountryRegionCode=pcr.CountryRegionCode
    group by sod.ProductID,pp.StandardCost,pcr.Name
)

select Name, sum(TotalProfit) as profits,
SUM(TotalSales) AS AmountSales,
SUM(SUM(TotalSales)) OVER () AS AllofSales,
SUM(sum(TotalProfit)) OVER () AS AllofProfits
INTO SalesTable0413
from ProfitsPerCountry_CTE
group by Name
ORDER BY AmountSales DESC
select * from SalesTable0413
```

81 %					
Results Messages					
	Name	profits	AmountSales	AllofSales	AllofProfits
1	Germany	1043016.692585	82132318.2634	2596470456.6774	9371903.626388
2	United States	2365311.347223	1642280462.1544	2596470456.6774	9371903.626388
3	Australia	3434255.379017	62787466.093	2596470456.6774	9371903.626388
4	United Kingdom	1231909.123075	166106655.2007	2596470456.6774	9371903.626388
5	Canada	404316.404762	467438111.0662	2596470456.6774	9371903.626388
6	France	893094.679726	175725443.8997	2596470456.6774	9371903.626388

Sales per Country Yearly:



```
with
RevenuePerCountry_CTE
as
(
    select pcr.Name,
    YEAR(soh.Orderdate) AS 'Year',
    SUM(sod.LineTotal) AS TotalRevenue,
    SUM(SubTotal) AS TotalSales
from Sales.SalesOrderDetail sod
join Production.Product pp
on pp.ProductID=sod.ProductID
join Sales.SalesOrderHeader soh
on soh.SalesOrderID=sod.SalesOrderID
join Sales.Customer c
on c.CustomerID=soh.CustomerID
join Person.person p
on c.PersonID=p.BusinessEntityID
join Person.Address pa
on pa.AddressID=soh.ShipToAddressID
join Person.StateProvince psp
on psp.StateProvinceID=pa.StateProvinceID
join Person.CountryRegion pcr
on psp.CountryRegionCode=pcr.CountryRegionCode
group by YEAR(soh.Orderdate), sod.ProductID, pp.StandardCost, pcr.Name
)
```

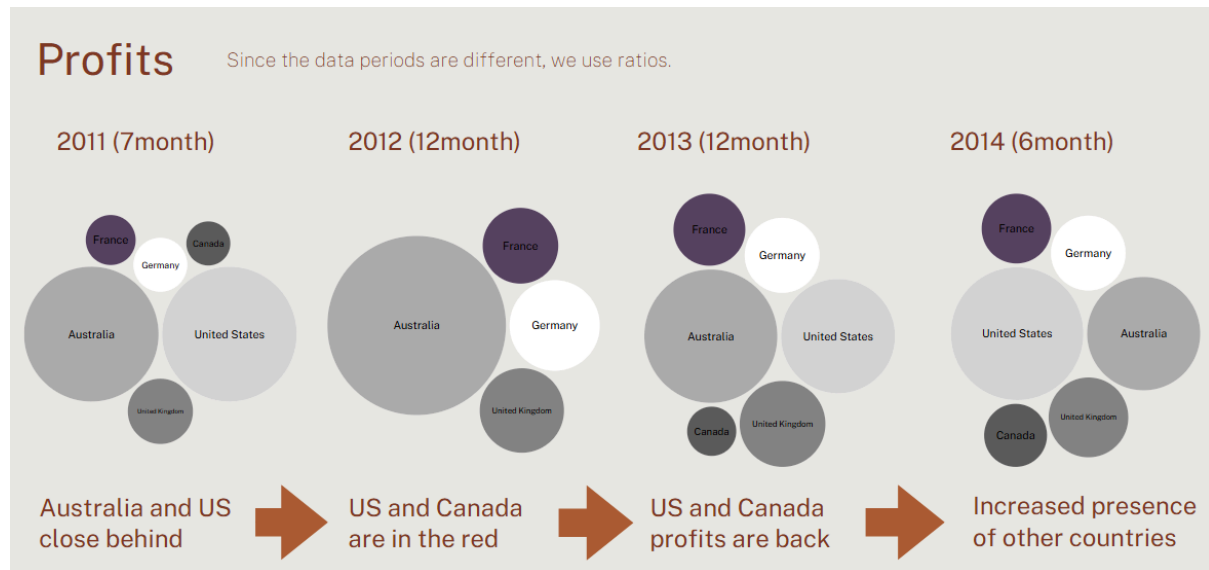
```
select [Year], sum(TotalRevenue) as Revenues,
[Name],
SUM(TotalSales) AS AmountSales,
SUM(SUM(TotalSales)) OVER (PARTITION BY [Year]) AS AllofSales,
SUM(sum(TotalRevenue)) OVER (PARTITION BY [Year]) AS AllofProfits
INTO SalesTableYear
```

```
from RevenuePerCountry_CTE
group by [Year], [Name]
ORDER BY [Year], [Name], AmountSales DESC
;
```

	Name	YEAR	Revenues	PercentageofProfits	AmountSales	AllofSales	PercentageofSales
1	Australia	2011	1532156.305200	12.119800	1532156.3052	151706131.5475	1.00
2	Canada	2011	1874382.415124	14.827000	30141793.1039	151706131.5475	19.86
3	France	2011	213817.758400	1.691300	213817.7584	151706131.5475	0.14
4	Germany	2011	246860.544800	1.952700	246860.5448	151706131.5475	0.16
5	United ...	2011	362888.617600	2.870500	362888.6176	151706131.5475	0.23
6	United ...	2011	8411566.571830	66.538400	119208615.2...	151706131.5475	78.57
7	Australia	2012	2124783.183100	6.338000	2124783.1831	862786335.1754	0.24
8	Canada	2012	5861057.473267	17.483000	175724519.9...	862786335.1754	20.36
9	France	2012	1557152.936935	4.644800	41836751.2782	862786335.1754	4.84
10	Germany	2012	550070.736700	1.640800	550070.7367	862786335.1754	0.06
11	United ...	2012	1581855.739784	4.718500	36451168.0646	862786335.1754	4.22
12	United ...	2012	21849381.254...	65.174700	606099041.9...	862786335.1754	70.24
13	Australia	2013	4230664.324489	9.698300	36533053.7253	1190722789.0...	3.06
14	Canada	2013	6229517.563395	14.280500	200969594.2...	1190722789.0...	16.87
15	France	2013	3806506.147616	8.726000	102873987.2...	1190722789.0...	8.63
16	Germany	2013	2565221.058404	5.880500	56881050.8186	1190722789.0...	4.77
17	United ...	2013	3633422.546404	8.329200	89270444.4099	1190722789.0...	7.49
18	United ...	2013	23157147.411...	53.085300	704194658.6...	1190722789.0...	59.14
19	Australia	2014	2767732.146528	13.798600	22597472.8794	391255200.8993	5.77
20	Canada	2014	2390813.003076	11.919500	60602203.8261	391255200.8993	15.48
21	France	2014	1674078.803975	8.346200	30800887.5863	391255200.8993	7.87
22	Germany	2014	1553255.255981	7.743800	24454336.1633	391255200.8993	6.25
23	United ...	2014	2092554.131687	10.432500	40022154.1086	391255200.8993	10.22
24	United ...	2014	9579495.469618	47.759100	212778146.3...	391255200.8993	54.38

```
SELECT [Name], [YEAR], Revenues,
( Revenues / AllofProfits ) * 100 AS PercentageofProfits,
AmountSales,
AllofSales,
( AmountSales / AllofSales ) * 100 AS PercentageofSales
FROM SalesTableYear
ORDER BY [YEAR], [Name]
```

Profit per Country Yearly:



```
with
  ProfitsPerCountry_CTE
as
(
  select pcr.Name,
  YEAR(soh.Orderdate) AS 'Year',
  SUM(sod.LineTotal) - (pp.StandardCost * sum(sod.OrderQty)) AS TotalProfit,
  SUM(SubTotal) AS TotalSales
from Sales.SalesOrderDetail sod
  join Production.Product pp
on pp.ProductID=sod.ProductID
  join Sales.SalesOrderHeader soh
on soh.SalesOrderID=sod.SalesOrderID
  join Sales.Customer c
on c.CustomerID=soh.CustomerID
  join Person.person p
on c.PersonID=p.BusinessEntityID
  join Person.Address pa
on pa.AddressID=soh.ShipToAddressID
  join Person.StateProvince psp
on psp.StateProvinceID=pa.StateProvinceID
  join Person.CountryRegion pcr
on psp.CountryRegionCode=pcr.CountryRegionCode
group by YEAR(soh.Orderdate), sod.ProductID, pp.StandardCost, pcr.Name
)

select [Year], sum(TotalProfit) as profits,
[Name],
SUM(TotalSales) AS AmountSales,
SUM(SUM(TotalSales)) OVER (PARTITION BY [Year]) AS AllofSales,
SUM(sum(TotalProfit)) OVER (PARTITION BY [Year]) AS AllofProfits
INTO SalesTableYear

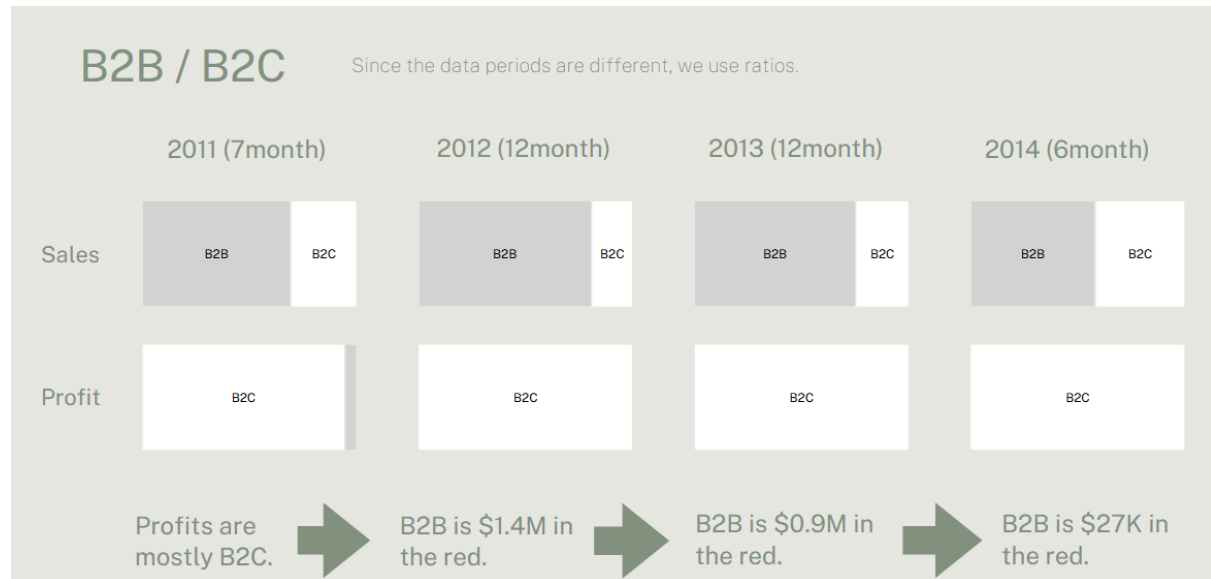
from ProfitsPerCountry_CTE
group by [Year], [Name]
ORDER BY [Year], [Name], AmountSales DESC
;
```

	Name	YEAR	profits	PercentageofProfits	AmountSales	AllofSales	PercentageofSales
1	Australia	2011	616582.082400	37.900400	1532156.3052	151706131.5475	1.00
2	Canada	2011	65953.472824	4.054000	30141793.1039	151706131.5475	19.86
3	France	2011	84977.113400	5.223400	213817.7584	151706131.5475	0.14
4	Germany	2011	98296.318200	6.042100	246860.5448	151706131.5475	0.16
5	United Kingdom	2011	144724.188800	8.895900	362888.6176	151706131.5475	0.23
6	United States	2011	616312.667230	37.883900	119208615.2176	151706131.5475	78.57
7	Australia	2012	797114.580900	84.065900	2124783.1831	862786335.1754	0.24
8	Canada	2012	-86719.090233	-9.145600	175724519.9297	862786335.1754	20.36
9	France	2012	142762.361235	15.056100	41836751.2782	862786335.1754	4.84
10	Germany	2012	203210.388100	21.431100	550070.7367	862786335.1754	0.06
11	United Kingdom	2012	177377.352184	18.706700	36451168.0646	862786335.1754	4.22
12	United States	2012	-285544.401052	-30.114300	606099041.9831	862786335.1754	70.24
13	Australia	2013	1158824.494889	34.546700	36533053.7253	1190722789.0552	3.06
14	Canada	2013	158149.059095	4.714700	200969594.2065	1190722789.0552	16.87
15	France	2013	338574.601716	10.093500	102873987.2768	1190722789.0552	8.63
16	Germany	2013	366205.259504	10.917200	56881050.8186	1190722789.0552	4.77
17	United Kingdom	2013	481865.609104	14.365300	89270444.4099	1190722789.0552	7.49
18	United States	2013	850743.904827	25.362300	704194658.6181	1190722789.0552	59.14
19	Australia	2014	861734.220828	25.032200	22597472.8794	391255200.8993	5.77
20	Canada	2014	266932.963076	7.754000	60602203.8261	391255200.8993	15.48
21	France	2014	326780.603375	9.492500	30800887.5863	391255200.8993	7.87
22	Germany	2014	375304.726781	10.902100	24454336.1633	391255200.8993	6.25
23	United Kingdom	2014	427941.972987	12.431100	40022154.1086	391255200.8993	10.22
24	United States	2014	1183799.176218	34.387800	212778146.3356	391255200.8993	54.38

```
SELECT [Name], [YEAR], profits,
( profits / AllofProfits ) * 100 AS PercentageofProfits,
AmountSales,
AllofSales,
( AmountSales / AllofSales ) * 100 AS PercentageofSales
FROM SalesTableYear

ORDER BY [YEAR], [Name]
```

B2B/B2C Profits Yearly:

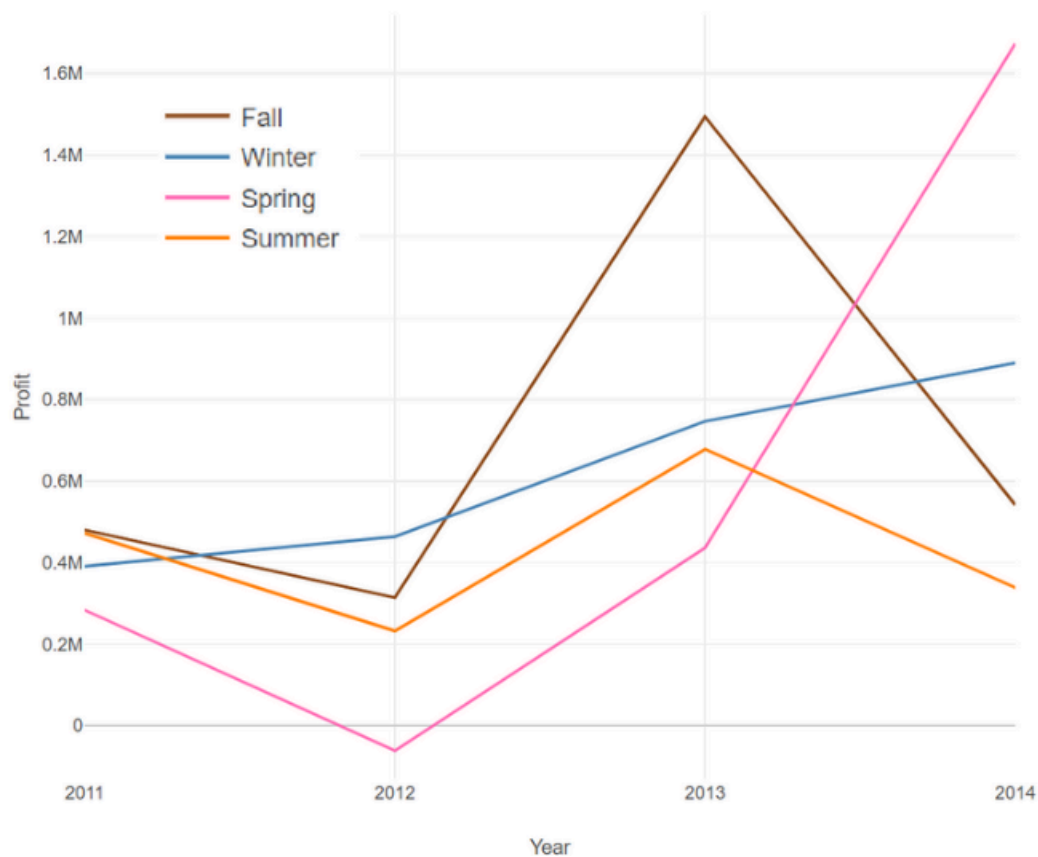


```
WITH
B2BB2C_CTE
AS
(
    SELECT
        CASE
            WHEN c.StoreID IS NOT NULL THEN 'Business (B2B)'
            WHEN c.StoreID IS NULL THEN 'Consumer (B2C)'
        END AS CustomerType,
        YEAR(h.OrderDate) AS 'Year',
        SUM(d.LineTotal) AS TotalRevYear,
        SUM(d.LineTotal) - (p.StandardCost * sum(d.OrderQty)) AS TotalProfit
    FROM Sales.SalesOrderDetail d
    JOIN Sales.SalesOrderHeader h ON h.SalesOrderID = d.SalesOrderID
    JOIN Sales.Customer c ON c.CustomerID = h.CustomerID
    JOIN Production.Product p ON p.ProductID = d.ProductID
    GROUP BY
        CASE
            WHEN c.StoreID IS NOT NULL THEN 'Business (B2B)'
            WHEN c.StoreID IS NULL THEN 'Consumer (B2C)'
        END,
        YEAR(h.OrderDate), p.ProductID, p.StandardCost
)

select CustomerType, [Year],
        SUM(TotalProfit) AS 'B2BperProfit'
from B2BB2C_CTE
GROUP BY CustomerType, [Year]
ORDER BY [Year], CustomerType DESC
```

	CustomerType	Year	B2BperProfit
1	Consumer (B2C)	2011	1541849.018600
2	Business (B2B)	2011	84996.824254
3	Consumer (B2C)	2012	2382419.678100
4	Business (B2B)	2012	-1434218.486966
5	Consumer (B2C)	2013	4293187.813500
6	Business (B2B)	2013	-938824.884365
7	Consumer (B2C)	2014	3470486.369300
8	Business (B2B)	2014	-27992.706035

Profit per Season Yearly:



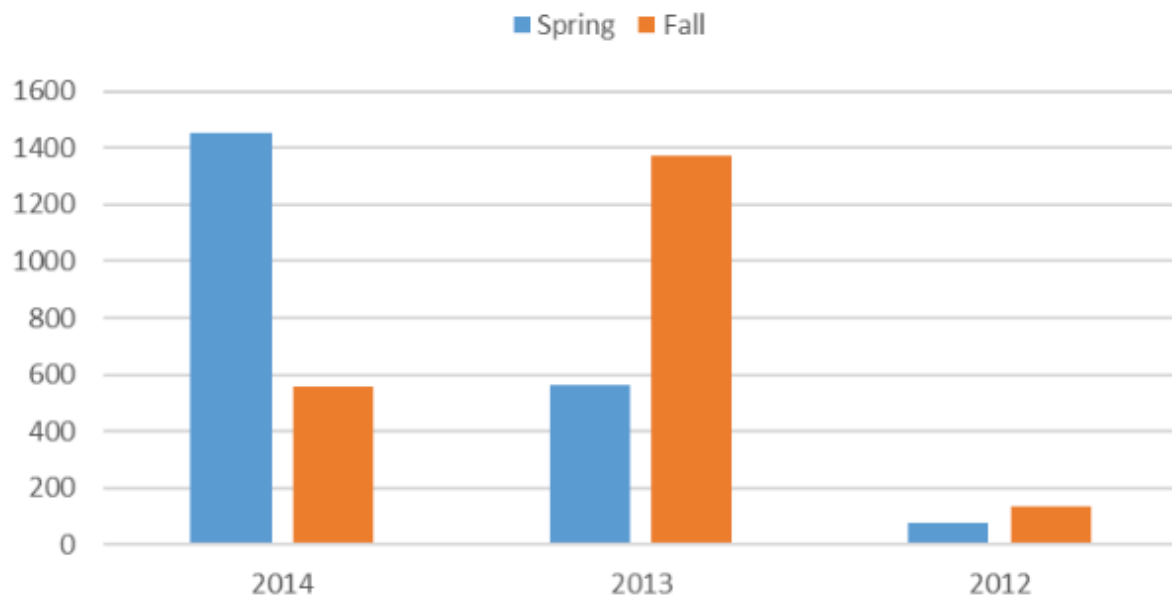
```

SELECT
    YEAR(H.OrderDate) AS Year,
    CASE
        WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (3, 4, 5) THEN 'Fall'
        WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (6, 7, 8) THEN 'Winter'
        WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (9, 10, 11) THEN 'Spring'
        when st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (12, 1, 2) then 'Summer'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (3, 4, 5) THEN 'Spring'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (6, 7, 8) THEN 'Summer'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (9, 10, 11) THEN 'Fall'
    when st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (12, 1, 2) then 'winter'
    END AS Season,
    SUM(D.LineTotal - (P.StandardCost * D.OrderQty)) AS Profit_$
FROM Sales.SalesOrderHeader H
JOIN Sales.SalesOrderDetail D ON D.SalesOrderID = H.SalesOrderID
JOIN Production.Product P ON P.ProductID = D.ProductID
join Sales.SalesTerritory st on st.TerritoryID=h.TerritoryID
GROUP BY
    YEAR(H.OrderDate),
    CASE
        WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (3, 4, 5) THEN 'Fall'
        WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (6, 7, 8) THEN 'Winter'
        WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (9, 10, 11) THEN 'Spring'
        when st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (12, 1, 2) then 'Summer'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (3, 4, 5) THEN 'Spring'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (6, 7, 8) THEN 'Summer'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (9, 10, 11) THEN 'Fall'
    when st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (12, 1, 2) then 'winter'
    END
ORDER BY Season,Year;
    
```

	Year	Season	Profit_
1	2011	Fall	480183.645930
2	2012	Fall	313925.297308
3	2013	Fall	1493802.586101
4	2014	Fall	541153.871252
5	2011	Spring	283610.297500
6	2012	Spring	-61493.101702
7	2013	Spring	435894.248004
8	2014	Spring	1673475.012560
9	2011	Summer	472375.234884
10	2012	Summer	232071.766147
11	2013	Summer	678171.708397
12	2014	Summer	338148.925676
13	2011	Winter	390676.664540
14	2012	winter	463697.229381
15	2013	winter	746494.386633
16	2014	winter	889715.853777

Number Of Promotion Spring X Fall:

Number Of Promotion

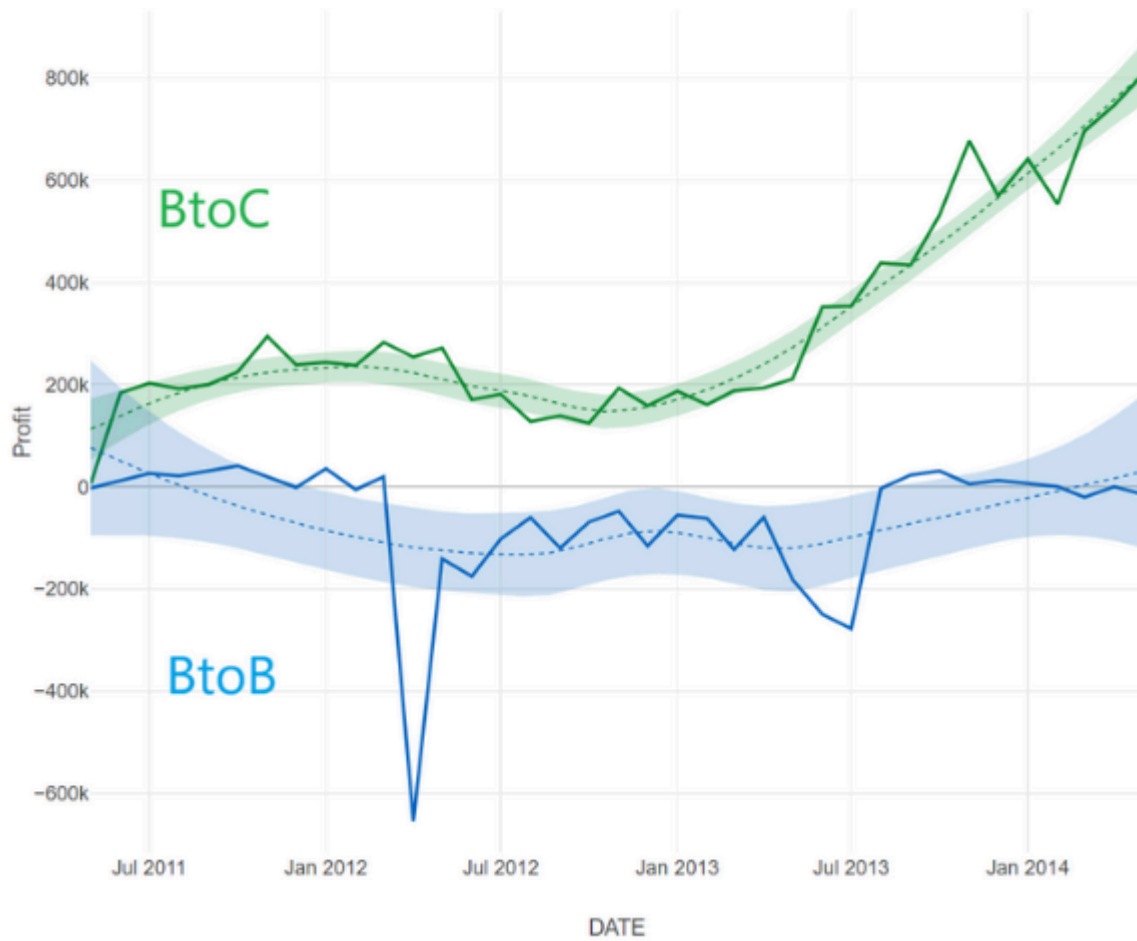


```
with season_CTE as (
SELECT format(h.OrderDate,'yyyy') as 'date',sr.ReasonType,sum(d.OrderQty) as 'No',
CASE
    WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (3, 4, 5) THEN 'Fall'
    WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (6, 7, 8) THEN 'Winter'
    WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (9, 10, 11) THEN 'Spring'
    when st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (12, 1, 2) then 'Summer'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (3, 4, 5) THEN 'Spring'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (6, 7, 8) THEN 'Summer'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (9, 10, 11) THEN 'Fall'
    when st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (12, 1, 2) then 'winter'
END AS Season
FROM Sales.SalesOrderHeader H
JOIN Sales.SalesOrderDetail D ON D.SalesOrderID = H.SalesOrderID
JOIN Production.Product P ON P.ProductID = D.ProductID
join Sales.SalesTerritory st on st.TerritoryID=h.TerritoryID
Join Sales.SalesOrderHeaderSalesReason hsr on hsr.SalesOrderID=h.SalesOrderID
join Sales.SalesReason sr on sr.SalesReasonID=hsr.SalesReasonID
where sr.ReasonType = 'Promotion'
group by format(h.OrderDate,'yyyy'),sr.ReasonType,
CASE
    WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (3, 4, 5) THEN 'Fall'
    WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (6, 7, 8) THEN 'Winter'
    WHEN st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (9, 10, 11) THEN 'Spring'
    when st.CountryRegionCode = 'AU' and MONTH(H.OrderDate) IN (12, 1, 2) then 'Summer'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (3, 4, 5) THEN 'Spring'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (6, 7, 8) THEN 'Summer'
    WHEN st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (9, 10, 11) THEN 'Fall'
    when st.CountryRegionCode != 'AU' and MONTH(H.OrderDate) IN (12, 1, 2) then 'winter'
END)

select *
from season_CTE
where Season='Fall' or Season='spring'
order by Season,date
```

	date	ReasonType	No	Season
1	2012	Promotion	137	Fall
2	2013	Promotion	1372	Fall
3	2014	Promotion	556	Fall
4	2012	Promotion	78	Spring
5	2013	Promotion	561	Spring
6	2014	Promotion	1454	Spring

B2B/B2C Profit Lifetime:



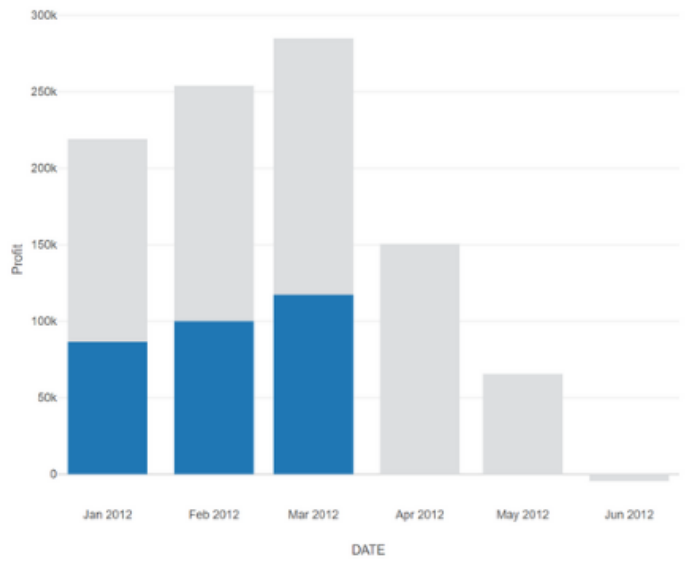
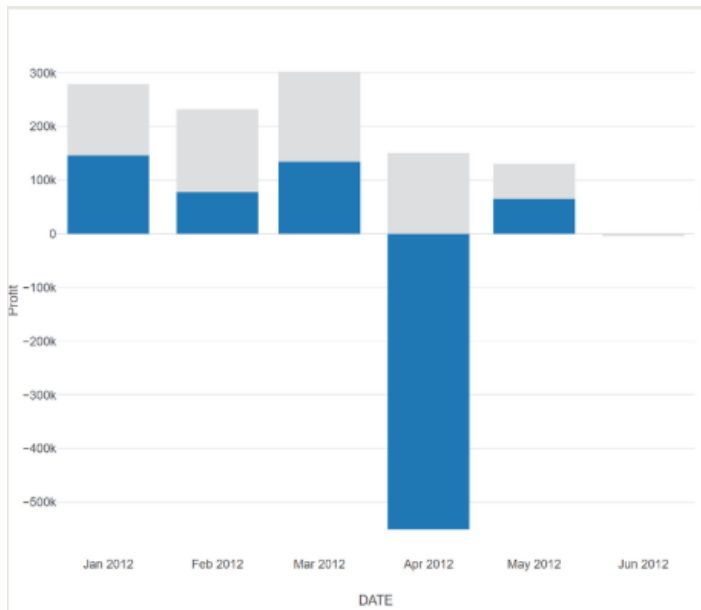
DATE

-- B2B/B2C TotalProfit LifeTime Per Month

```
SELECT
    CASE
        WHEN c.StoreID IS NOT NULL THEN 'Business (B2B)'
        WHEN c.StoreID IS NULL THEN 'Consumer (B2C)'
    END AS CustomerType,
    CONCAT(YEAR(h.OrderDate), '-', RIGHT('00' + CAST(MONTH(h.OrderDate) AS VARCHAR(2)), 2)) AS Date,
    SUM(d.LineTotal - (p.StandardCost * d.OrderQty)) AS TotalProfit
FROM Sales.SalesOrderDetail d
JOIN Sales.SalesOrderHeader h ON h.SalesOrderID = d.SalesOrderID
JOIN Sales.Customer c ON c.CustomerID = h.CustomerID
JOIN Production.Product p ON p.ProductID = d.ProductID
GROUP BY
    CASE
        WHEN c.StoreID IS NOT NULL THEN 'Business (B2B)'
        WHEN c.StoreID IS NULL THEN 'Consumer (B2C)'
    END,
    YEAR(h.OrderDate),
    MONTH(h.OrderDate)
ORDER BY CustomerType, Date, TotalProfit DESC;
```

	CustomerType	Date	TotalProfit				
1	Business (B2B)	2011-05	-2377.217900	35	Consumer (B...	2011-05	6082.874200
2	Business (B2B)	2011-07	26253.571138	36	Consumer (B...	2011-06	183781.263...
3	Business (B2B)	2011-08	21227.549146	37	Consumer (B...	2011-07	202695.551...
4	Business (B2B)	2011-10	41181.135730	38	Consumer (B...	2011-08	191826.715...
5	Business (B2B)	2011-12	-1288.213860	39	Consumer (B...	2011-09	200136.355...
6	Business (B2B)	2012-01	35663.756958	40	Consumer (B...	2011-10	224631.902...
7	Business (B2B)	2012-02	-5445.495820	41	Consumer (B...	2011-11	294138.893...
8	Business (B2B)	2012-03	19813.426328	42	Consumer (B...	2011-12	238555.462...
9	Business (B2B)	2012-04	-654180.090...	43	Consumer (B...	2012-01	243237.560...
10	Business (B2B)	2012-05	-140734.424...	44	Consumer (B...	2012-02	237270.172...
11	Business (B2B)	2012-06	-175012.186...	45	Consumer (B...	2012-03	282510.371...
12	Business (B2B)	2012-07	-101979.105...	46	Consumer (B...	2012-04	253891.673...
13	Business (B2B)	2012-08	-60026.6623...	47	Consumer (B...	2012-05	271418.426...
14	Business (B2B)	2012-09	-119990.363...	48	Consumer (B...	2012-06	170432.565...
15	Business (B2B)	2012-10	-68788.1275...	49	Consumer (B...	2012-07	181304.612...
16	Business (B2B)	2012-11	-47775.3370...	50	Consumer (B...	2012-08	127618.133...
17	Business (B2B)	2012-12	-115763.876...	51	Consumer (B...	2012-09	139102.816...
18	Business (B2B)	2013-01	-55397.0785...	52	Consumer (B...	2012-10	124430.726...
19	Business (B2B)	2013-02	-61567.9211...	53	Consumer (B...	2012-11	192733.098...
20	Business (B2B)	2013-03	-122967.292...	54	Consumer (B...	2012-12	158469.521...
21	Business (B2B)	2013-04	-59572.5424...	55	Consumer (B...	2013-01	187065.921...
22	Business (B2B)	2013-05	-181448.893...	56	Consumer (B...	2013-02	160952.966...
23	Business (B2B)	2013-06	-249403.145...	57	Consumer (B...	2013-03	187990.237...
24	Business (B2B)	2013-07	-277323.269...	58	Consumer (B...	2013-04	193439.032...
25	Business (B2B)	2013-08	-2937.410945	59	Consumer (B...	2013-05	210834.775...
26	Business (B2B)	2013-09	22996.036603	60	Consumer (B...	2013-06	351550.164...
27	Business (B2B)	2013-10	31088.233602	61	Consumer (B...	2013-07	353146.528...
28	Business (B2B)	2013-11	5460.747087	62	Consumer (B...	2013-08	437777.511...
29	Business (B2B)	2013-12	12247.652901	63	Consumer (B...	2013-09	433776.332...
30	Business (B2B)	2014-01	6680.014353	64	Consumer (B...	2013-10	531422.383...
31	Business (B2B)	2014-02	216.468900	65	Consumer (B...	2013-11	676677.785...
32	Business (B2B)	2014-03	-20263.1791...	66	Consumer (B...	2013-12	568554.175...
33	Business (B2B)	2014-04	201.017200	67	Consumer (B...	2014-01	640788.806...
34	Business (B2B)	2014-05	-14827.0273...	68	Consumer (B...	2014-02	552813.488...
35	Consumer (B...	2011-05	6082.874200	69	Consumer (B...	2014-03	695928.330...
				70	Consumer (B...	2014-04	746289.156...
				71	Consumer (B...	2014-05	807300.585...
				72	Consumer (B...	2014-06	27366.001500

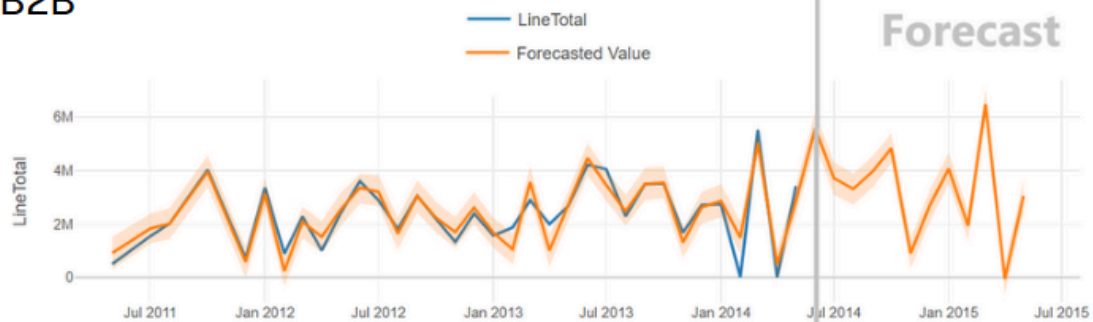
Profit comparison between Bike-100 series and other products during the clearance in April
X Profit comparison doing a progressive discount clearance



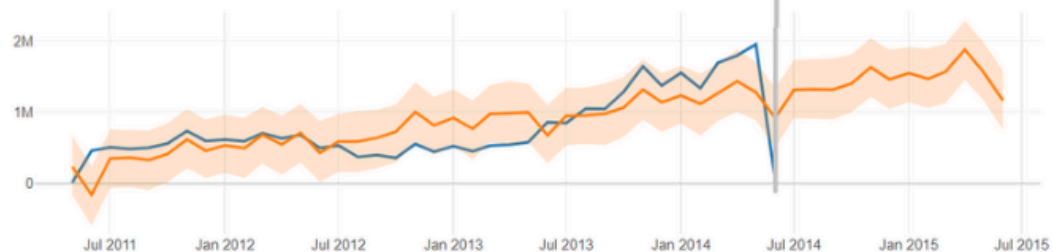
Month	DiscountRate	UnitsSold	UnitPrice	StandardCost	ProfitPerUnit	TotalProfit
Month 1	0.10	82	3399.99	1905.67	1054.321	86,452.29
Month 2	0.20	123	3399.99	1905.67	813.324	100,039.85
Month 3	0.30	205	3399.99	1905.67	572.327	117,337.04
Total	—	410	—	—	—	303,829.18

B2B/B2C Forecast Revenue:

B2B



B2C



Generalized Additive Model (Prophet) / TOOL : Exploratory

Prophet : Forecasting time series data

It is a statistical forecasting model for time series data published by Meta.

Prophet is a procedure for forecasting time series data based on an additive model where non-linear trends are fit with yearly, weekly, and daily seasonality, plus holiday effects. It works best with time series that have strong seasonal effects and several seasons of historical data.

```
-- Total Profit Per year
select
    concat_ws('-',YEAR(h.OrderDate), MONTH(h.OrderDate)) as 'Date',
    SUM(D.LineTotal) AS Revenue,
    RANK() OVER (ORDER BY SUM(D.LineTotal - (P.StandardCost * D.OrderQty))) AS Rank
from Sales.SalesOrderHeader H
join Sales.SalesOrderDetail D on D.SalesOrderID = H.SalesOrderID
join Production.Product P on P.ProductId = D.ProductID

group by YEAR(H.OrderDate), MONTH(h.OrderDate)
order by YEAR(H.OrderDate), MONTH(h.OrderDate);
```

	Date	Revenue	Rank
1	2011-5	503805.916900	3
2	2011-6	458910.824800	19
3	2011-7	2044600.003338	22
4	2011-8	2495816.733446	21
5	2011-9	502073.845800	20
6	2011-10	4588761.816130	25
7	2011-11	737839.821400	27
8	2011-12	1309863.251140	24
9	2012-1	3970627.278958	26
10	2012-2	1475426.909980	23
11	2012-3	2975748.238428	28
12	2012-4	1634600.798332	1
13	2012-5	3074602.813538	15
14	2012-6	4099354.356751	2
15	2012-7	3417953.869571	12
16	2012-8	2175637.217725	10
17	2012-9	3454151.940485	4
18	2012-10	2544091.105517	8
19	2012-11	1872701.976206	18
20	2012-12	2829404.818943	7
21	2013-1	2087872.462504	16
22	2013-2	2316922.151480	13
23	2013-3	3412068.967535	9
24	2013-4	2532265.912399	17
25	2013-5	3245623.754479	6
26	2013-6	5081069.131596	14
27	2013-7	4896353.737794	11
28	2013-8	3333964.067555	29
29	2013-9	4532908.705303	30
30	2013-10	4795813.289802	32
31	2013-11	3312130.245587	36
32	2013-12	4075486.625601	33
33	2014-1	4289817.950953	34
34	2014-2	1337725.035600	31
35	2014-3	7217531.091974	35
36	2014-4	1797173.923000	37

Diagram

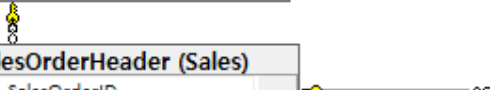
Relationship about Table that used for checking profit seasonal

Product (Production)	
ProductID	
Name	
ProductNumber	
MakeFlag	
FinishedGoodsFlag	
Color	
SafetyStockLevel	
ReorderPoint	
StandardCost	
ListPrice	
Size	
SizeUnitMeasureCode	
WeightUnitMeasureCode	
Weight	
DaysToManufacture	
ProductLine	
Class	
Style	
ProductSubcategoryID	
ProductModelID	
SellStartDate	
SellEndDate	
DiscontinuedDate	

SalesTerritory (Sales)	
TerritoryID	
Name	
CountryRegionCode	
[Group]	
SalesYTD	
SalesLastYear	
CostYTD	
CostLastYear	
rowguid	
ModifiedDate	

SalesOrderHeader (Sales)	
SalesOrderID	
RevisionNumber	
OrderDate	
DueDate	
ShipDate	
Status	
OnlineOrderFlag	
SalesOrderNumber	
PurchaseOrderNumber	
AccountNumber	
CustomerID	
SalesPersonID	
TerritoryID	
BillToAddressID	
ShipToAddressID	
ShipMethodID	
CreditCardID	
CreditCardApprovalCode	
CurrencyRateID	
SubTotal	
TaxAmt	
Freight	
TotalDue	
Comment	

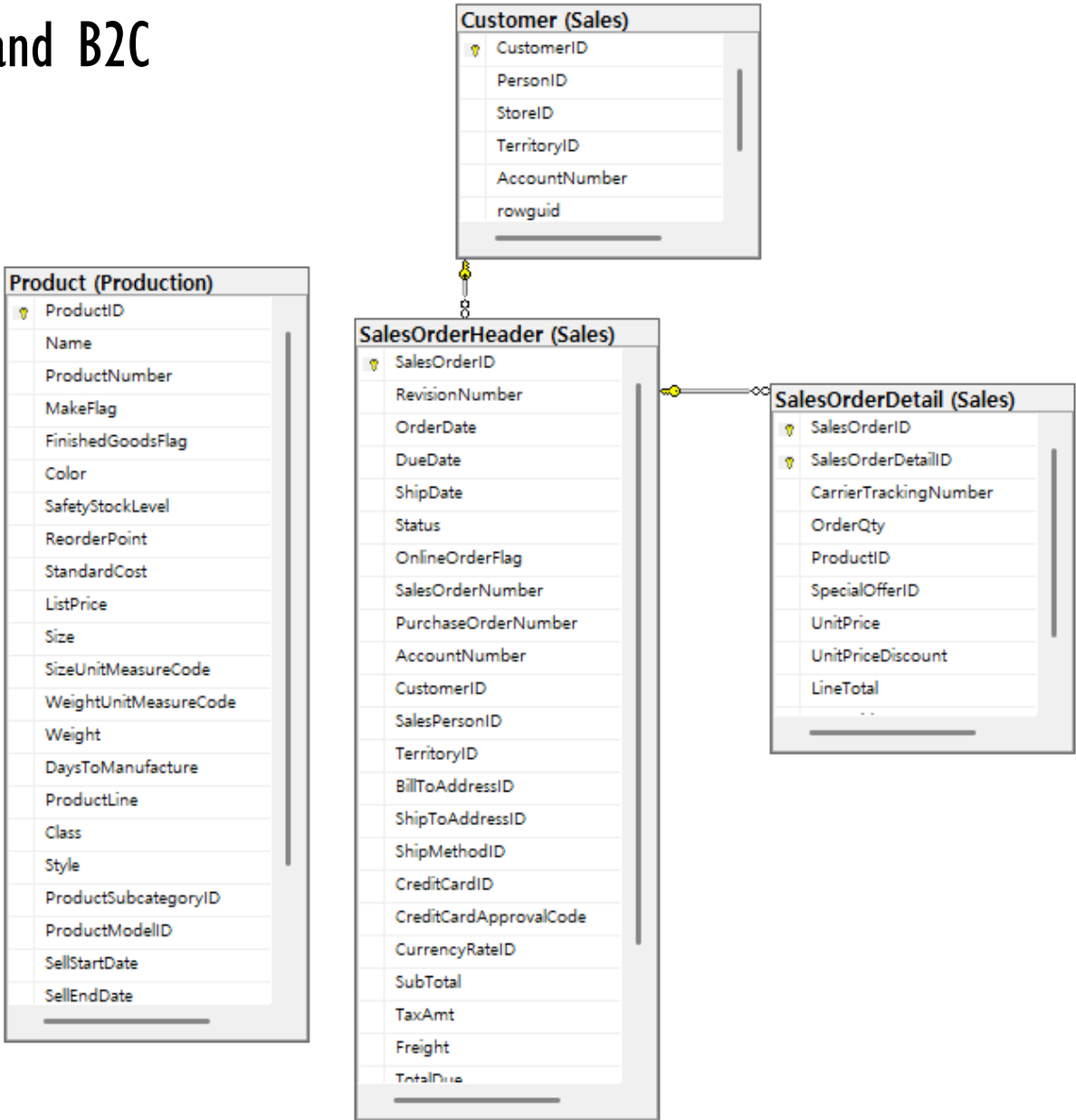
SalesOrderDetail (Sales)	
SalesOrderID	
SalesOrderDetailID	
CarrierTrackingNumber	
OrderQty	
ProductID	
SpecialOfferID	
UnitPrice	
UnitPriceDiscount	
LineTotal	
rowguid	
ModifiedDate	



Relationship about Table that used for checking profit for each country



Relationship about Table that used for checking B2B and B2C



Excel Data

For visualization TotalProfit and revenue for each country

For visualization Total Profits per season

Year	Season	Profit_
2011	Spring	283610.2975
2012	Spring	-61493.1017
2013	Spring	435894.248
2014	Spring	1673475.013
2011	Summer	472375.2349
2012	Summer	232071.7661
2013	Summer	678171.7084
2014	Summer	338148.9257
2011	Fall	480183.6459
2012	Fall	313925.2973
2013	Fall	1493802.586
2013	Fall	541153.8713
2011	Winter	390676.6645
2012	Winter	463697.2294
2013	Winter	746494.3866
2014	Winter	889715.8538

Country	Date	TotalProfit	Country	Date	TotalRevenue
AU	2011	616,582	AU	2,011	1,532,156
AU	2012	797,115	AU	2,012	2,124,783
AU	2013	1,158,824	AU	2,013	4,230,664
AU	2014	861,734	AU	2,014	2,767,732
CA	2011	65,953	CA	2,011	1,874,382
CA	2012	-86,719	CA	2,012	5,861,057
CA	2013	158,149	CA	2,013	6,229,518
CA	2014	266,933	CA	2,014	2,390,813
DE	2011	98,296	DE	2,011	246,861
DE	2012	203,210	DE	2,012	550,071
DE	2013	366,205	DE	2,013	2,565,221
DE	2014	375,305	DE	2,014	1,553,255
FR	2011	84,977	FR	2,011	213,818
FR	2012	142,762	FR	2,012	1,557,153
FR	2013	338,575	FR	2,013	3,806,506
FR	2014	326,781	FR	2,014	1,674,079
GB	2011	144,724	GB	2,011	362,889
GB	2012	177,377	GB	2,012	1,581,856
GB	2013	481,866	GB	2,013	3,633,423
GB	2014	427,942	GB	2,014	2,092,554
US	2011	616,313	US	2,011	8,411,567
US	2012	-285,544	US	2,012	21,849,381
US	2013	850,744	US	2,013	23,157,147
US	2014	1,183,799	US	2,014	9,579,495

For checking Top15 Negative profit product

ProductID	Name	OrderDate	UnitPrice	UnitPriceD	Profit per	Status		
778	Mountain-	2012-04-30 0:00	843.7475	0.35	-26993.2	B2B	Mountain-100 Black	26993.17
771	Mountain-	2012-04-30 0:00	849.9975	0.35	-25833.5	B2B	Mountain-100 Silver	25833.46
773	Mountain-	2012-04-30 0:00	849.9975	0.35	-25833.5	B2B	Mountain-100 Silver	25833.46
776	Mountain-	2012-04-30 0:00	843.7475	0.35	-24293.9	B2B	Mountain-100 Black	24293.85
775	Mountain-	2012-04-30 0:00	843.7475	0.35	-22944.2	B2B	Mountain-100 Black	22944.19
772	Mountain-	2012-04-30 0:00	849.9975	0.35	-21754.5	B2B	Mountain-100 Silver	21754.5
954	Touring-1000	2013-07-31 0:00	953.628	0.2	-21571.1	B2B	Touring-1000 Yellow	21571.07
957	Touring-1000	2013-06-30 0:00	953.628	0.2	-20133	B2B	Touring-1000 Yellow	20132.99
957	Touring-1000	2013-07-31 0:00	953.628	0.2	-20133	B2B	Touring-1000 Yellow	20132.99
955	Touring-1000	2013-07-31 0:00	953.628	0.2	-19414	B2B	Touring-1000 Yellow	19413.96
774	Mountain-	2012-04-30 0:00	849.9975	0.35	-19035.2	B2B	Mountain-100 Silver	19035.18
777	Mountain-	2012-04-30 0:00	843.7475	0.35	-18895.2	B2B	Mountain-100 Black	18895.22
954	Touring-1000	2013-06-30 0:00	953.628	0.2	-15818.8	B2B	Touring-1000 Yellow	15818.78
956	Touring-1000	2013-07-31 0:00	953.628	0.2	-15099.7	B2B	Touring-1000 Yellow	15099.75
954	Touring-1000	2013-05-30 0:00	953.628	0.2	-12942.6	B2B	Touring-1000 Yellow	12942.64

For visualization Number of promotion in fall and spring

date	ReasonType	No	Season
2014	Promotion	1454	Spring
2013	Promotion	561	Spring
2012	Promotion	78	Spring
2014	Promotion	556	Fall
2013	Promotion	1372	Fall
2012	Promotion	137	Fall

For checking total profit for each categories

Date	PROFIT	CategoryName
May-11	596.4168	Accessories
Jul-11	1263.836	Accessories
Aug-11	1824.751	Accessories
Oct-11	3424.802	Accessories
Dec-11	205.9058	Accessories
Jan-12	1533.643	Accessories
Feb-12	624.8176	Accessories
Mar-12	1952.934	Accessories
Apr-12	1505.242	Accessories
May-12	1929.708	Accessories
Jun-12	6298.373	Accessories
Jul-12	5046.849	Accessories
Aug-12	3122.858	Accessories
Sep-12	4273.207	Accessories
Oct-12	3369.658	Accessories
Nov-12	1609.383	Accessories
Dec-12	1909.507	Accessories
Jan-13	1812.301	Accessories