Insurance Sales Data Analysis Project

Shaked Shtraitman

The Data

- An SQL file creating the the following tables:
  - Customers
  - Divisions
  - Order Lines
  - Orders
  - Products
  - Segments
- A CSV file with a regions table

The Process

| ETL (Power Query)	Tabular Model Dev (Power Pivot)	Semantic Layer Improvement	Data Visualization (PowerBI)
Load the SQL & CSV data files. **Creating dim & fact tables**, removed unnecessary columns and adding SK columns. Creating a **dim_date** table from scratch. **Data cleansing process.**	Creating a **star scheme** (relations between the fact tables and the dimensions table). **Creating measures** and **calculated columns.**	Changing data types/ formats. **Creating measures** and **calculated columns using DAX.** **Define KPIs** using **Tabular Editor.**	Visualize the data using **PowerBI.**

Star Scheme
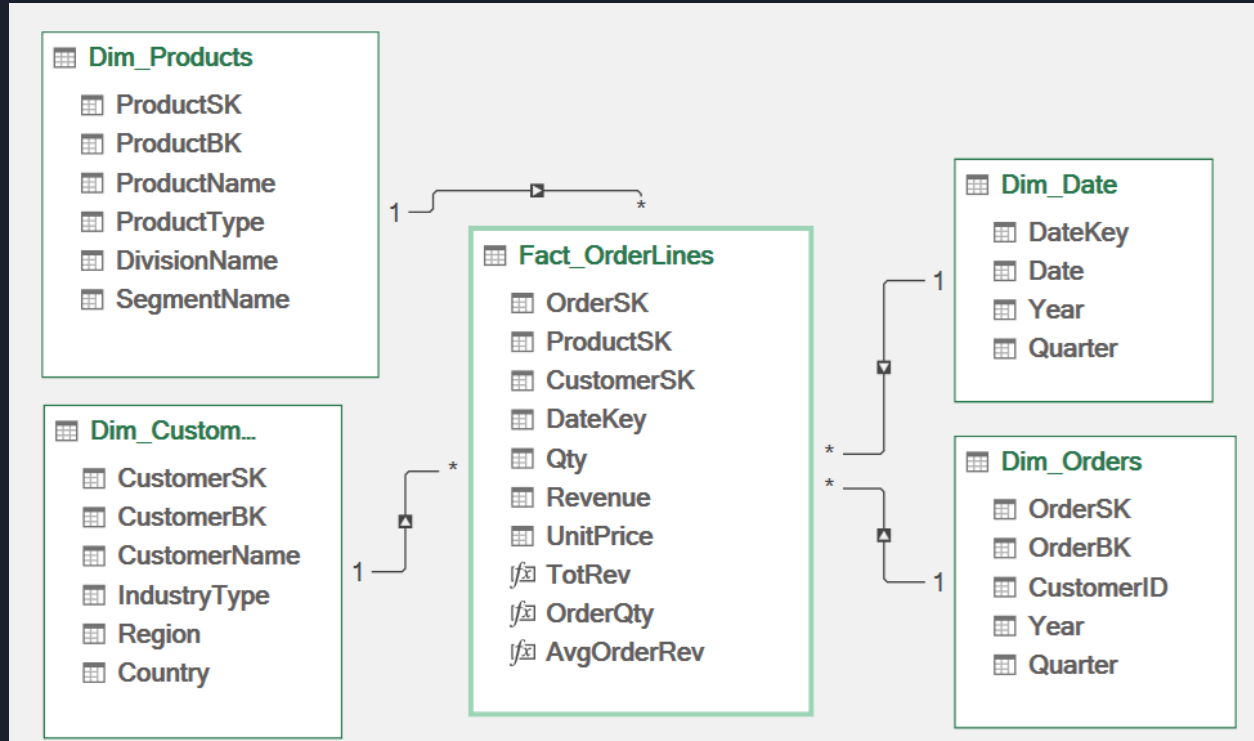
General

- The **total revenue all times** is $927.2K.
- **Q with highest revenue:** Q2 2012 (not the Q with highest sold quantity → Selling more units is not the only way to increase revenue!)
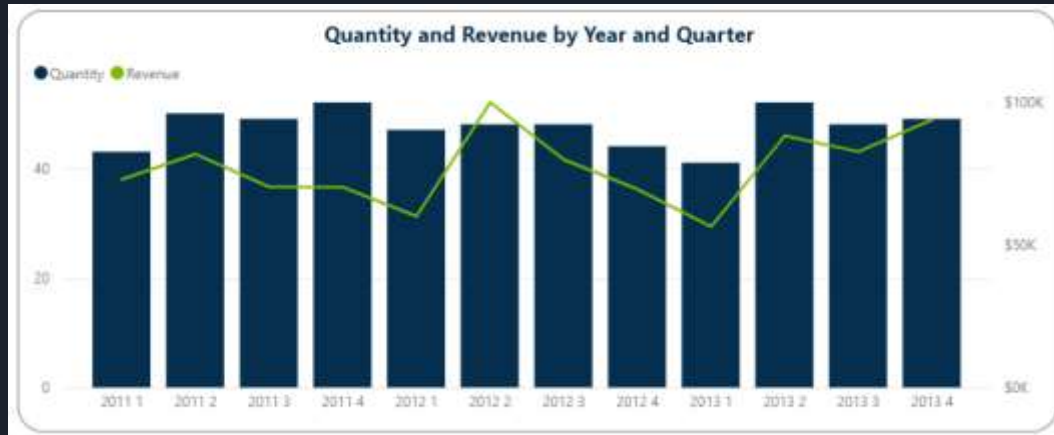
KPIs and performance

- The **yearly revenue KPI** was set to previous year's revenue + 10%. The KPI was not met either in 2012 or 2013.

- The **monthly sold quantity KPI** was set to previous month's sold quantity + 15%. This KPI was met in 2 months out of 11.

Yearly Revenue: Actual vs. Goal

Year	Actual	Goal	Growth (%)	Status
2011	$295,753			🟢
2012	$309,798	325,328.42	4.75%	🔴
2013	$321,649	340,778.14	3.83%	🔴

Quarterly Order Quantity: Actual vs. Goal

| Year	Quarter	Actual	Goal	Growth (%)	Status
2011	1	43			🟢
2011	2	50	49.45	16.28%	🟢
2011	3	49	57.50	-2.00%	🔴
2011	4	52	56.35	6.12%	🔴
2012	1	47	59.80	-9.62%	🔴
2012	2	48	54.05	2.13%	🔴
2012	3	48	55.20	0.00%	🔴
2012	4	44	55.20	-8.33%	🔴
2013	1	41	50.60	-6.82%	🔴
2013	2	52	47.15	26.83%	🟢
2013	3	48	59.80	-7.69%	🔴
2013	4	49	55.20	2.08%	🔴

Products: Divisions

Life insurance has always been the division with highest revenue (during the time of available data: 2011-2013).
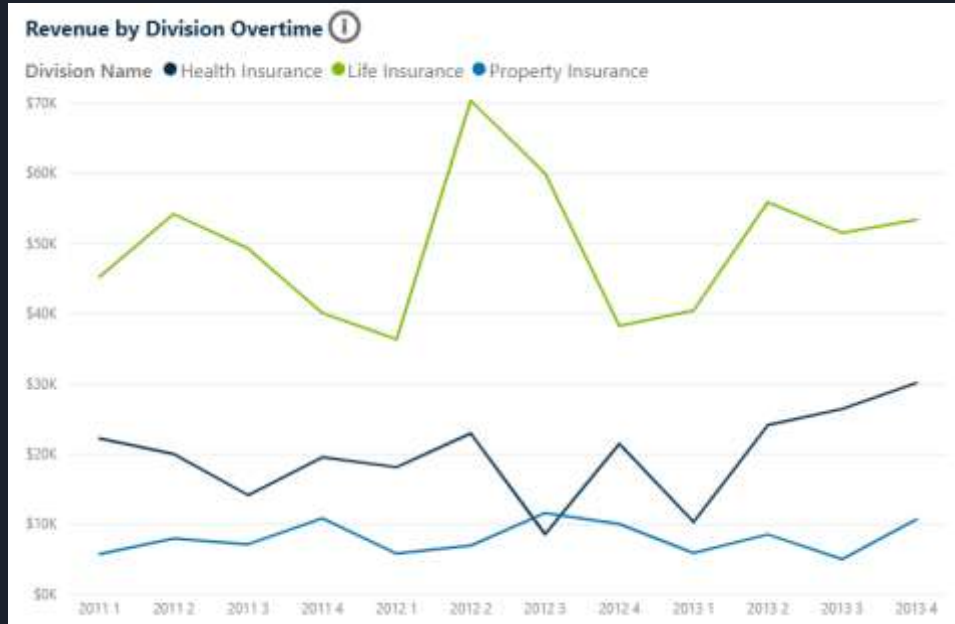
Products: Segments

Apartment insurance is the segment with the lowest revenue.

Total Revenue by Segment Name
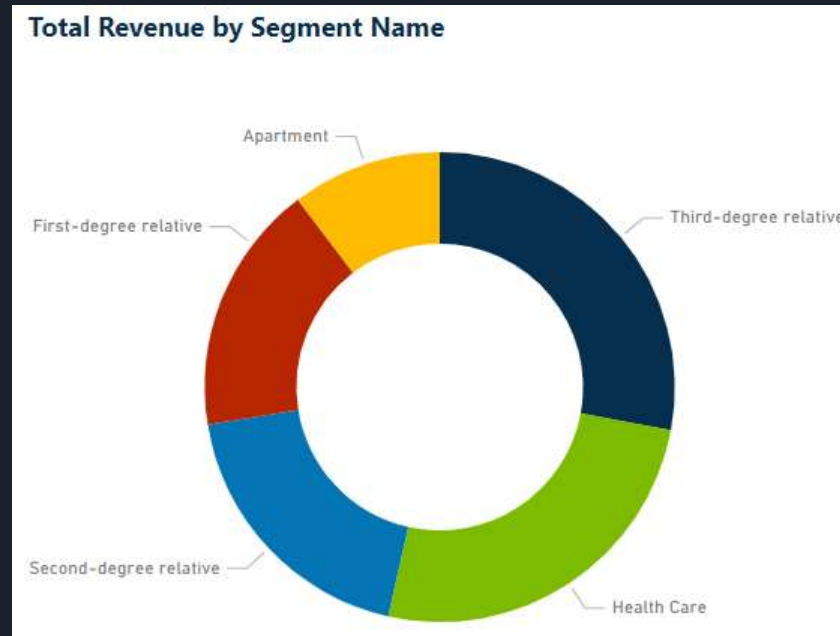
Customers

- Total customers: **94**

- These are the top 5 and bottom 5 customers (based on revenue):

Let's preserve them!

How do we make them buy more?

Top 5 Customers

Customer Name	Revenue	Quantity	Average Order Revenue
Tangela	$29,272	11	$2,661
Charole	$27,419	12	$2,285
Pamelia	$26,181	12	$2,182
Monika	$25,149	12	$2,096
Araceli	$24,997	12	$2,083
Total	**$133,019**	**59**	**$2,255**

Bottom 5 Customers

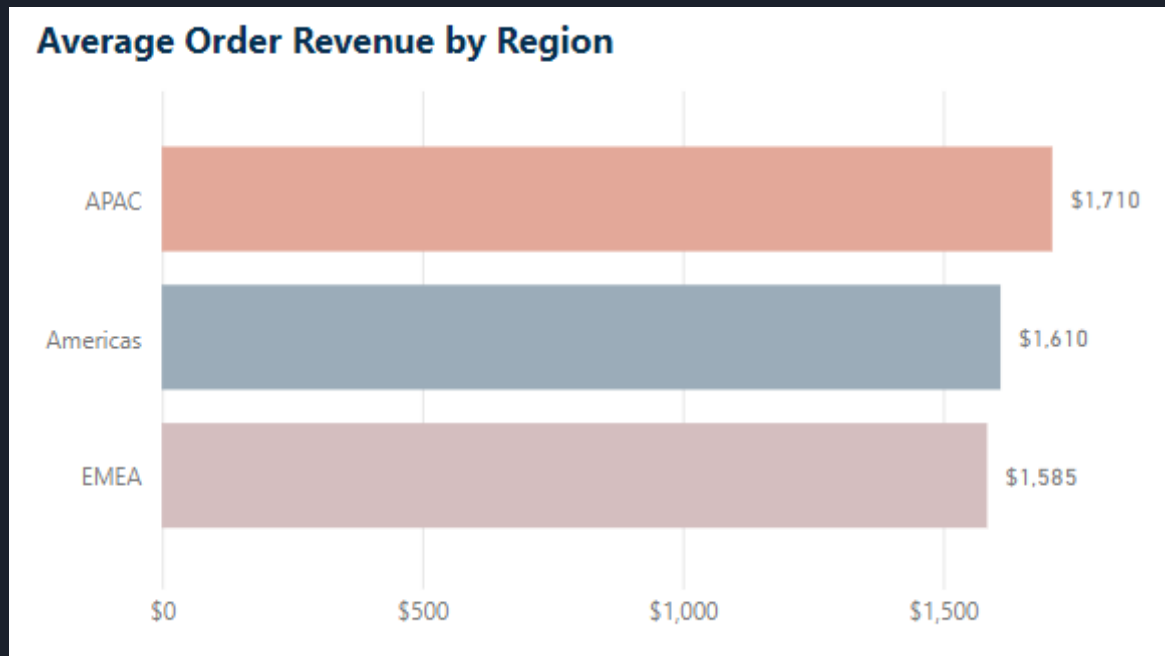| Customer Name	Revenue	Quantity	Average Order Revenue
Marvin	$442	1	$442
Georgea	$377	2	$189
Armand	$110	1	$110
Ashanti	$63	1	$63
Sharyn	$42	1	$42
Total	**$1,034**	**6**	**$172**

Regions: Revenue

The region with the highest **revenue** is **EMEA**.
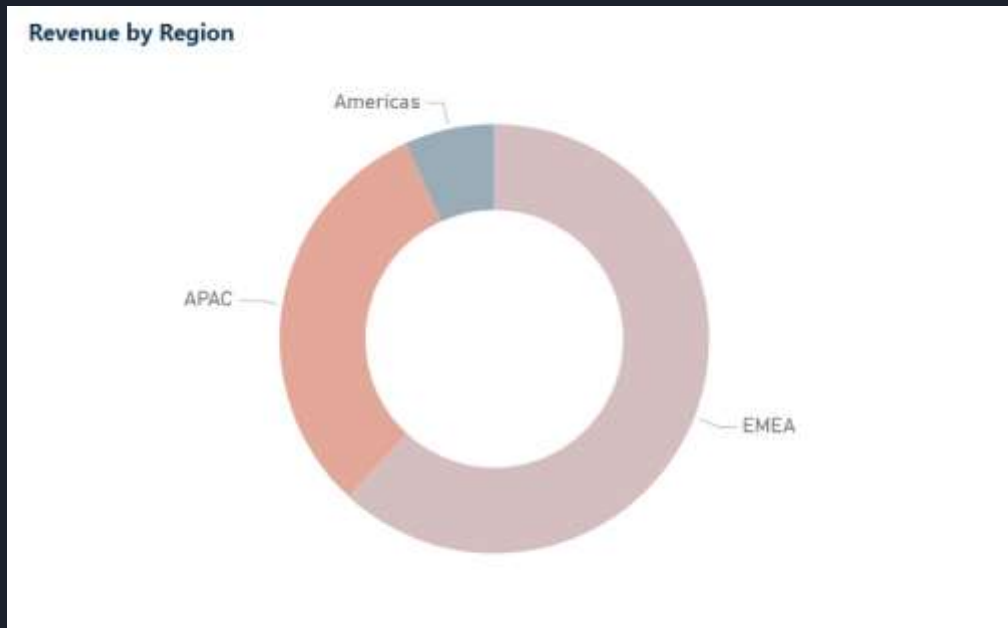
Regions: Avg. Order Revenue

Highest **avg. order revenue** is in **APAC**.

Average Order Revenue by Region

Region	Avg. Order Revenue
APAC	$1,710
Americas	$1,610
EMEA	$1,585
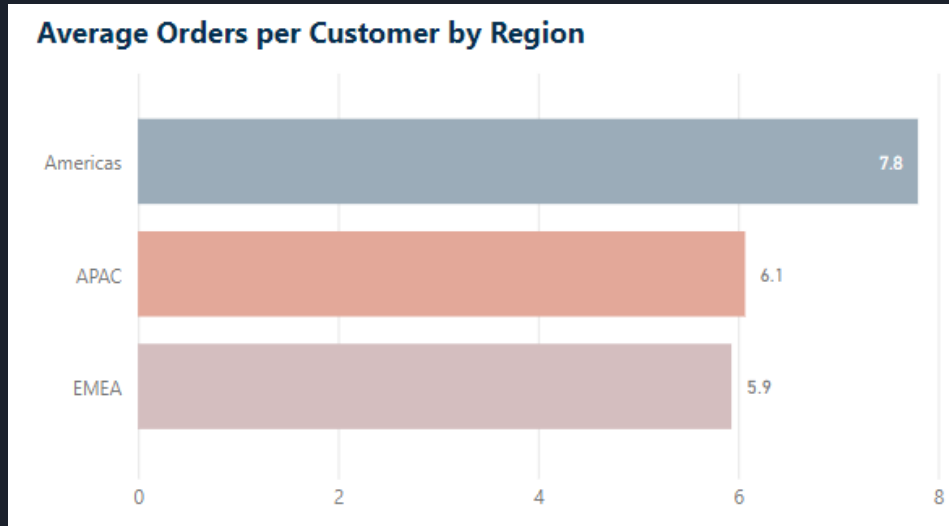
Customer Countries

India is the country with the highest revenue.

Country	Revenue ▼	Average Order Revenue	Quantity
India	$48,326	$2,014	24
Italy	$36,073	$1,503	24
USA	$35,240	$1,468	24

Bulgaria is the country with the highest avg. order revenue.

Country	Revenue	Average Order Revenue ▼	Quantity
Bulgaria	$18,251	$3,650	5
Azerbaijan	$3,314	$3,314	1
Georgia	$16,533	$2,756	6

Distributors vs. End Users

Distributors have always generated more revenue than end-users. However, the gap in revenue between the two industry types has gone through changes over the time.

Revenue by Year, Quarter and Industry Type
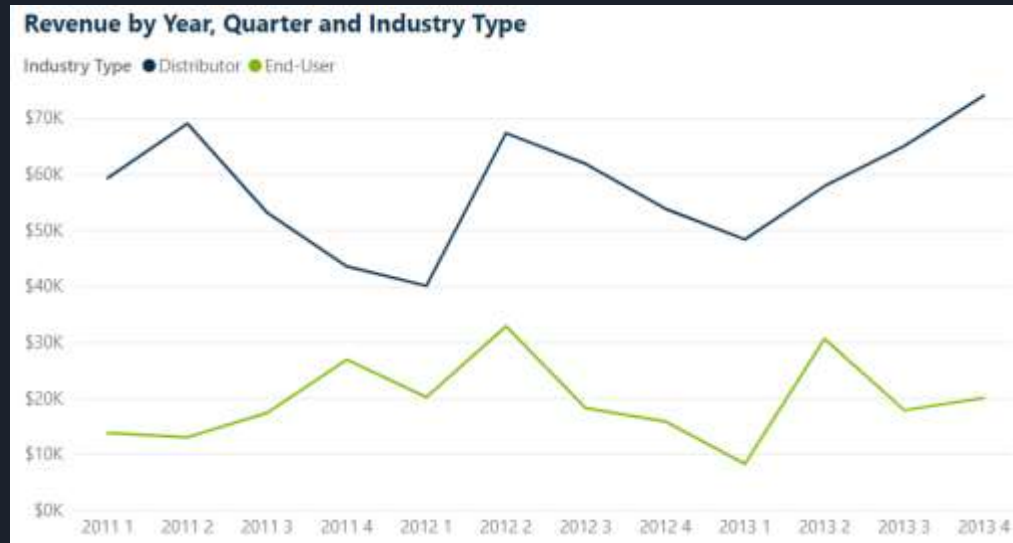
Distributors vs. End Users

Distributor's **avg. order revenue** is higher than end-users'.

Average Order Revenue by Industry Type

Distributor	**$1,694**
End-User	$1,446

$0 $500 $1,000 $1,500

What-If Analysis

What-if analysis enables the user predict how changes in a certain product's **price** and **sold quantity** would affect the total **revenue** (quarterly, yearly and all times)