**AdventureWorks.pbix**

1. Get Data > Excel > *AdventureWorks\_Database.xlsx* > select tables/ranges not sheets > Load.
2. Get Data > Excel > *Budget.xlsx* > Transform Data, open Query Editor.
3. Applied Steps > delete Changed Type and Promoted Headers.
4. Remove Top Rows > 3.
5. Use First Row as Headers.
6. Category > Text Filters > does not contain Total.
7. Grand Total > Remove Column.
8. Multi select Jan, 2016 - Dec, 2016 > Unpivot Columns
9. Rename Attribute to Month, Value to BudgetAmount
10. Change data type: Category (Text), Subcategory (Text), ProductName (Text), ProductKey (Whole Number), Month (Date), BudgetAmount (Whole Number)
11. Close and Apply.
12. Model > rearrange tables: dimension tables at the top and fact tables at the bottom.
13. Create one-to-many (1:\*) relationships. Hide primary and foreign keys.

|  |  |
| --- | --- |
| dimension (5W1H) | fact (KPI) |
| Customer[CustomerKey] | Sales[*CustomerKey*] |
| Product[ProductKey] | Sales[*ProductKey*] |
| Territory[SalesTerritoryKey] | Sales[*SalesTerritoryKey*] |
| Calendar[Date] | Sales[*OrderDate*] |
| Product[ProductKey] | Budget[*ProductKey*] |
| Calendar[Date] | Budget[*Month*] |

1. Create measures: Home > Enter Data > Name: Measure > Load.

|  |  |  |
| --- | --- | --- |
| measure | formula | format |
| Sales | SUM(Sales[SalesAmount]) | Currency |
| Budget | SUM(Budget[BudgetAmount]) | Currency |
| Variance | [Sales]-[Budget] | Currency |
| Variance% | DIVIDE([Variance],[Budget]) | Percentage |

1. View > Themes > Classic
2. Design background in PowerPoint > Save As *AdventureWorks-Background.png*.
3. Cavas background > image=*AdventureWorks-Background.png*, Image fit=fit, Transparency=0%.
4. Filter > Basic filtering Year = 2016.
5. Card > Sales, Budget, Variance, Variance% > Value=white, Label=white.
6. Bar Chart > Sales and Budget (X-axis) by Category and SubCategory (Y-axis), add SubCategory to allow drill down and drill up > sort Category ascending. Title: Off. Legend: Top center.
7. Bar Chart > Variance (X-axis) by Category and SubCategory (Y-axis). Bars > Colors > Conditional formatting: Color based on Variance, Minimum (red), Center (yellow), Maximum (green).
8. Line Chart > Sales and Budget (Y-axis) by Month (X-axis) > Sort Month by MonthNum ascending. Title: Off. Legend: Top center.
9. Column Chart > Variance (Y-axis) by Month (X-axis). Columns > Colors > Conditional formatting: Color based on Variance, Minimum (red), Center (yellow), Maximum (green).
10. Table > Top 10 Products by Sales > Filters: ProductName, Top 10, By value=Sales, Apply filter > Format: Values=10px, Column headers=10px/Center, Totals=Off > sort Sales descending.
11. Table > Top 10 Customers by Sales > Filters: FullName, Top 10, By value=Sales, Apply filter > Format: Values=10px, Column headers=10px/Center, Totals=Off > sort Sales descending.
12. Create column: Age = DATEDIFF(Customer[BirthDate],date(2016,12,31),YEAR).
13. Explore Key influencers, Decomposition Tree, Q&A, Smart narrative.
14. Visual storytelling: presents 360-degree view of a business, from different angles (*customer*, *product* and *market*) and at different levels (analysts, managers, directors, VPs and C-Suite); visualize (*trends* and *drivers*), present (*conclusions* and *recommendations*) with real impact on business health and performance (*revenue* growth, *cost* reduction, *efficiency* gain, *quality* improvement).

Story Example

It's Jan 2017. CEO and everybody else received your 2016 sales performance dashboard.

Two big numbers on the Cards caught his eye: $16.5M Sales vs $16.9M Plan.

Upset, he called VP Sales into his office: We didn't achieve the goal?!

VP Sales paused for a moment and shared a different perspective. He pointed at the Line Chart: Boss, if you look at Jan: Sales was above Plan but it's only $886K, not even $1M. Now you look at Dec: Sales was below Plan, but it more than doubled the Jan number at almost $2M. It's amazing growth, right? To be honest, I always thought 2016 plan was a little aggressive. The Variance was only a small negative $396K.

CEO: Good point! I will use your growth story at the next week's board meeting. Let's setup a bonus pool to reward the sales team. Let's also discuss product strategy with product team.

A week later, CEO met VP Sales, VP Product and 3 Product Managers in charge of Accessories, Bikes and Clothing. Bikes PM didn't need to say a thing, because Bike generated 94% of total sales, making him look like a star.

VP Product: Boss, we would like to walk you through our product design and pricing strategy to identify opportunities and grow sales in 2017. He turned to his 3 PMs: Who would like to go first?

Accessories PM broke the silence: If you look at Sales by SubCategory, not all SubCategories performed bad. She pointed at Bar Chart and drilled down Sales from Category to SubCategory: For instance, Helmets, Tires and Tubes did pretty well in 2016, especially Red Helmet. I think we should produce more Red Helmets...

Feeling encouraged, Clothing PM also stood up: I plan to contact Top 10 Customers such as Jordan, Maurice, Janet... They bought so many products from us, they must really like our products. I will interview them and then submit a product boundling and pricing proposal to encourage repeat purchases of consumable products such as accessories and clothing from existing and new customers...

VP Product noticed CEO nodded his head and he had been smiling the whole time. <HAPPY ENDING>