

Introduction to Power BI

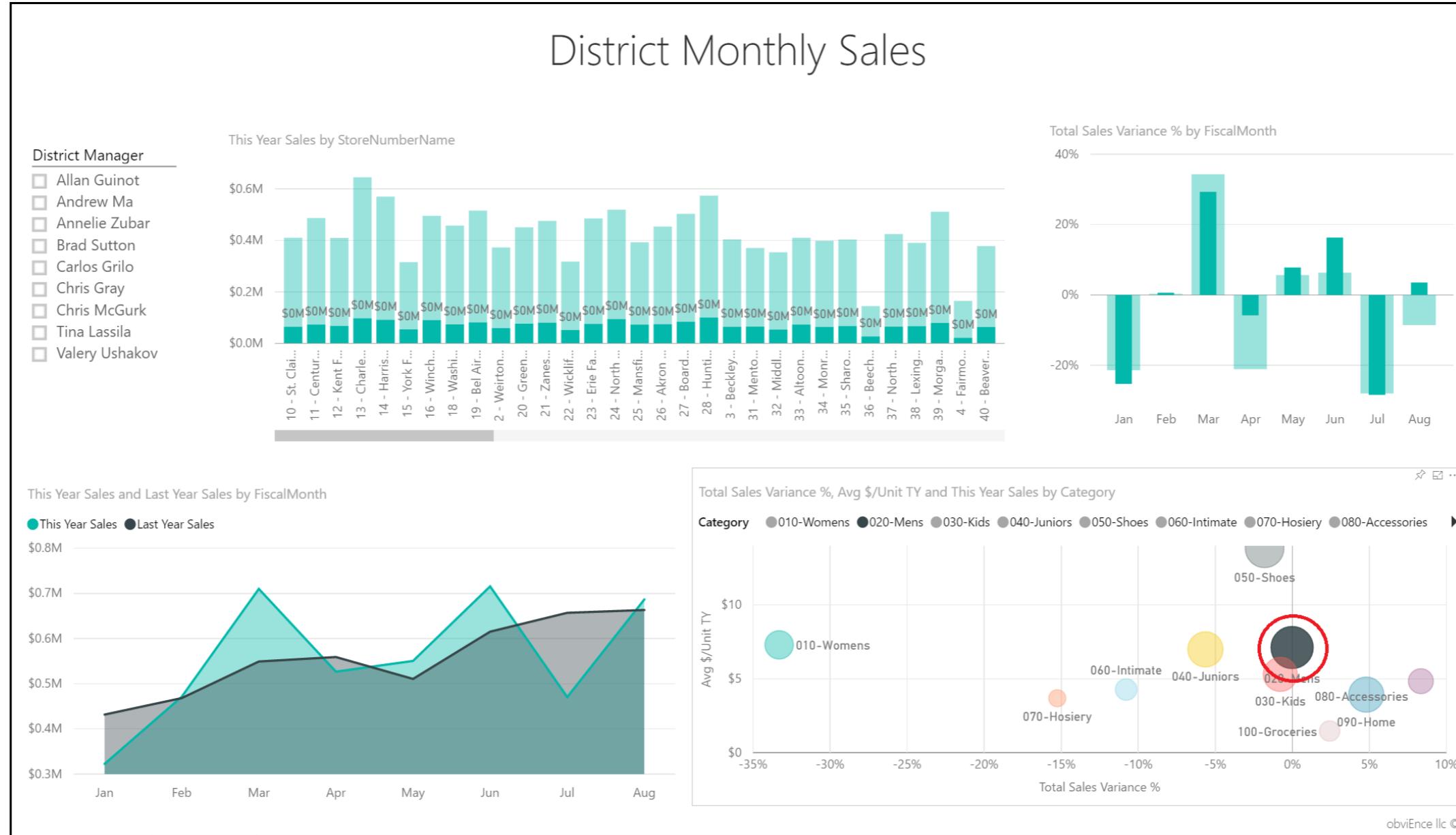
INTRODUCTION TO POWER BI



Iason Prassides

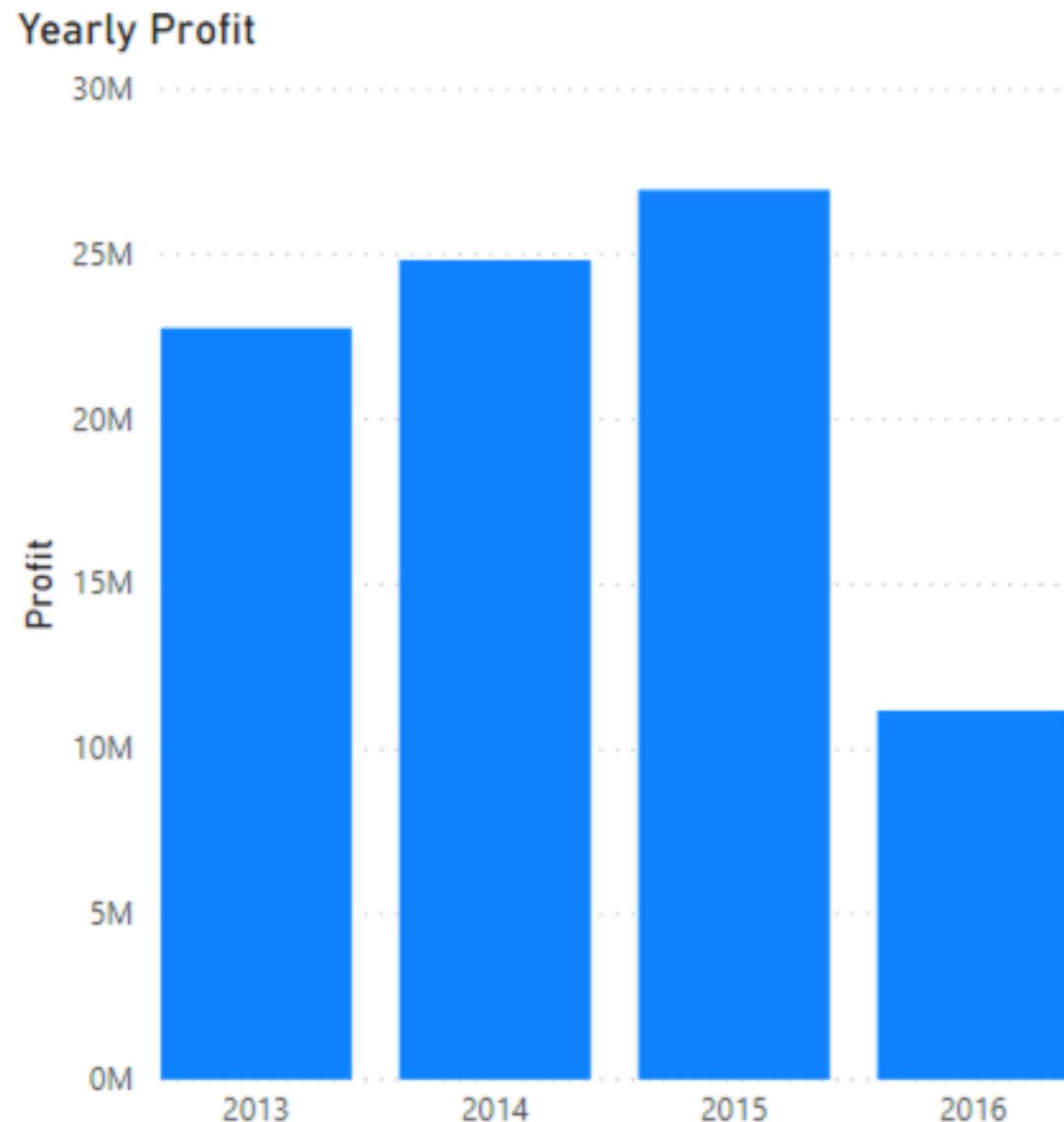
Content Developer, DataCamp

What is Power BI?



¹ <https://docs.microsoft.com/en-us/power-bi/create-reports/sample-retail-analysis>

Data Visualization in Power BI

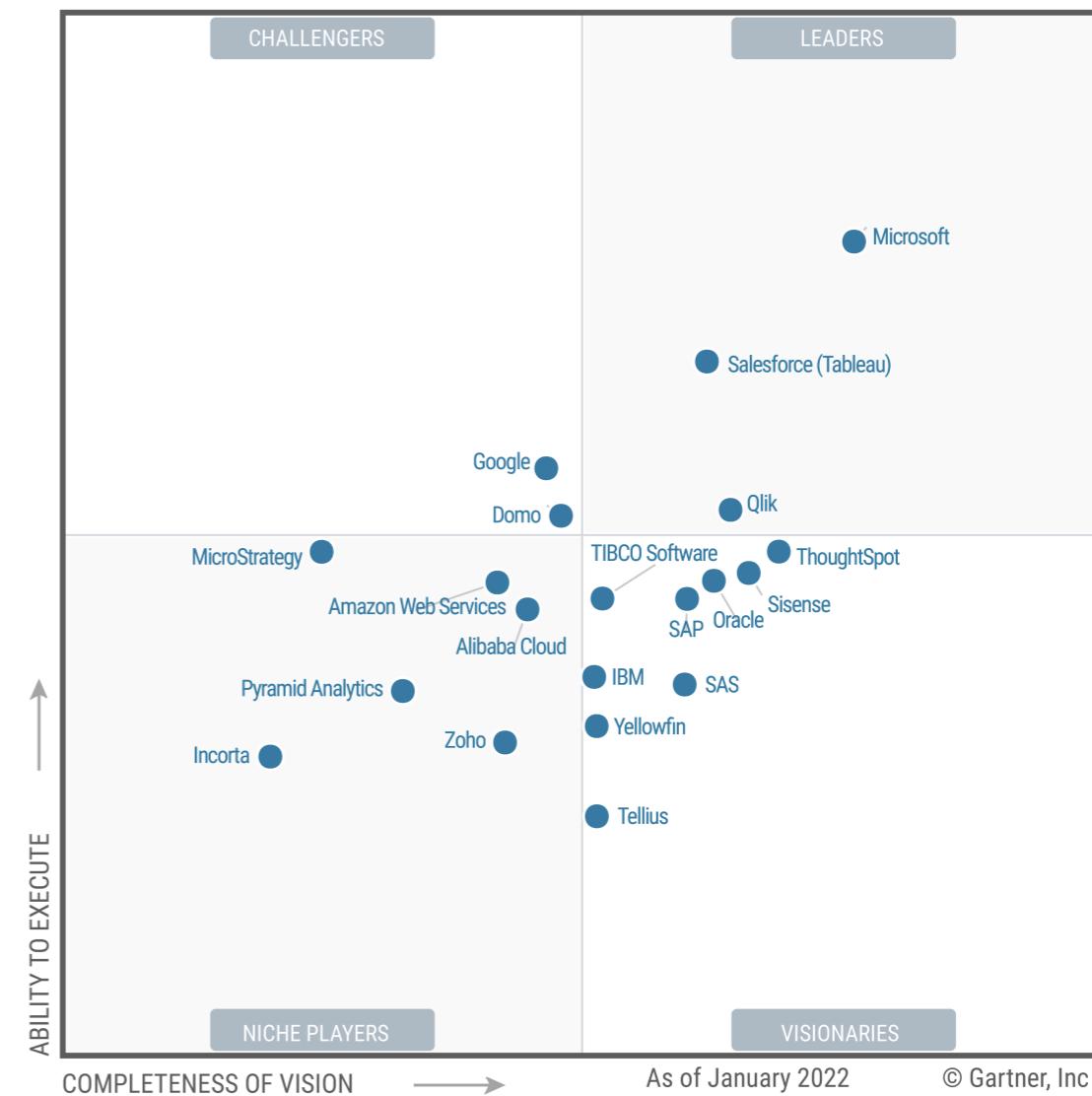


Total Excluding Tax	Tax Amount	Profit	Total Including Tax
129	19.35	67.5	148.35
258	38.7	135	296.7
301	45.15	157.5	346.15
172	25.8	90	197.8
86	12.9	45	98.9
387	58.05	202.5	445.05
387	58.05	202.5	445.05
387	58.05	202.5	445.05
344	51.6	180	395.6
344	51.6	180	395.6
344	51.6	180	395.6
344	51.6	180	395.6
344	51.6	180	395.6
258	38.7	135	296.7
258	38.7	135	296.7
258	38.7	135	296.7
258	38.7	135	296.7

Why Power BI?

- Leading BI tool according to Gartner
- Over 97% of Fortune 500 companies use Power BI
- Over 6 million customers

Figure 1: Magic Quadrant for Analytics and Business Intelligence Platforms



Power BI Components

Power BI Desktop

- Desktop version
- Data analysis and report creation tool
- Includes the Power Query Editor
- 100% free

Power BI service

- Cloud-based version
- Light report editing
- Share and distribute reports

Power BI Pro

Exclusive features:

- Publish and share across the Power BI cloud platform
- Mobile app
- Collaborate with other Power BI users

Power BI Interface

The screenshot displays the Power BI interface across three panels:

- Left Panel (Power BI Desktop):** Shows the desktop application with a dark background. It includes a "Get data" button and a "Recent sources" section listing four .pbix files: "4_2_qa_visual.pbix", "EmptyReport.pbix", "CH4_EX3_Screencast.pbix", and "CH4_EX6_Screencast.pbix". A red box highlights the "Open other reports" button at the bottom.
- Middle Panel (Collaborate and share):** Features a large circular icon with a user silhouette. Below it is the heading "Collaborate and share" followed by text encouraging users to sign in to publish reports. A red box highlights the "Get started" button.
- Right Panel (Help Window):** Has a green header with a "Close" button (also highlighted with a red box and arrow). It contains sections for "WHAT'S NEW" (describing monthly updates), "POWER BI BLOG" (linking to news), "FORUMS" (linking to the forum), and "TUTORIALS" (linking to tutorials). A red box highlights the "Close" button in the top right corner of the window.

Power BI Interface - Three views

The screenshot illustrates the Power BI Desktop interface with three distinct views:

- Report View (Left):** Displays a dashboard with three main visualizations:
 - A large blue bar chart titled "Amount by AccountType" showing a total of 53.64bn.
 - A bar chart titled "Amount by MonthName and ScenarioName" comparing Actual, Budget, and Forecast values across months from November to January.
 - A detailed table titled "ScenarioName" showing financial data for various product categories like Audio, Cameras and camcorders, Cell phones, Computers, Games and Toys, Home Appliances, Music, Movies and Audio Books, and TV and Video.
- Data View (Middle):** Located at the bottom of the interface, showing the data source connection information.
- Fields View (Right):** Shows the data model structure with sections for Filters, Visualizations, Fields, and Values, along with filter settings and drill-through options.

Power BI Interface - Report View

The screenshot shows the Power BI Desktop application window titled "CH3_EX6_Screencast - Power BI Desktop". The ribbon bar at the top has "Home" selected. The main workspace contains three visualizations:

- Amount by AccountType:** A treemap visualization showing data categorized by account type, with a legend indicating "Expense".
- Amount by MonthName and ScenarioName:** A grouped bar chart showing monthly amounts for different scenarios (Actual, Budget, Forecast) across various months from November to January.
- ScenarioN by ProductCategory:** A table showing the amount for different product categories across three scenarios: Actual, Budget, and Forecast.

The right side of the interface features a pane with the following sections:

- Filters:** Includes a search bar and dropdown menus for "Select all" and years from 2020 down to 2015.
- Visualizations:** A list of available visualizations: Build visual, DimAccount, DimDate, DimProductCategory, DimScenario, and FactStrategyPlan.
- Fields:** A search bar and a list of fields: DimAccount, DimDate, DimProductCategory, DimScenario, and FactStrategyPlan.

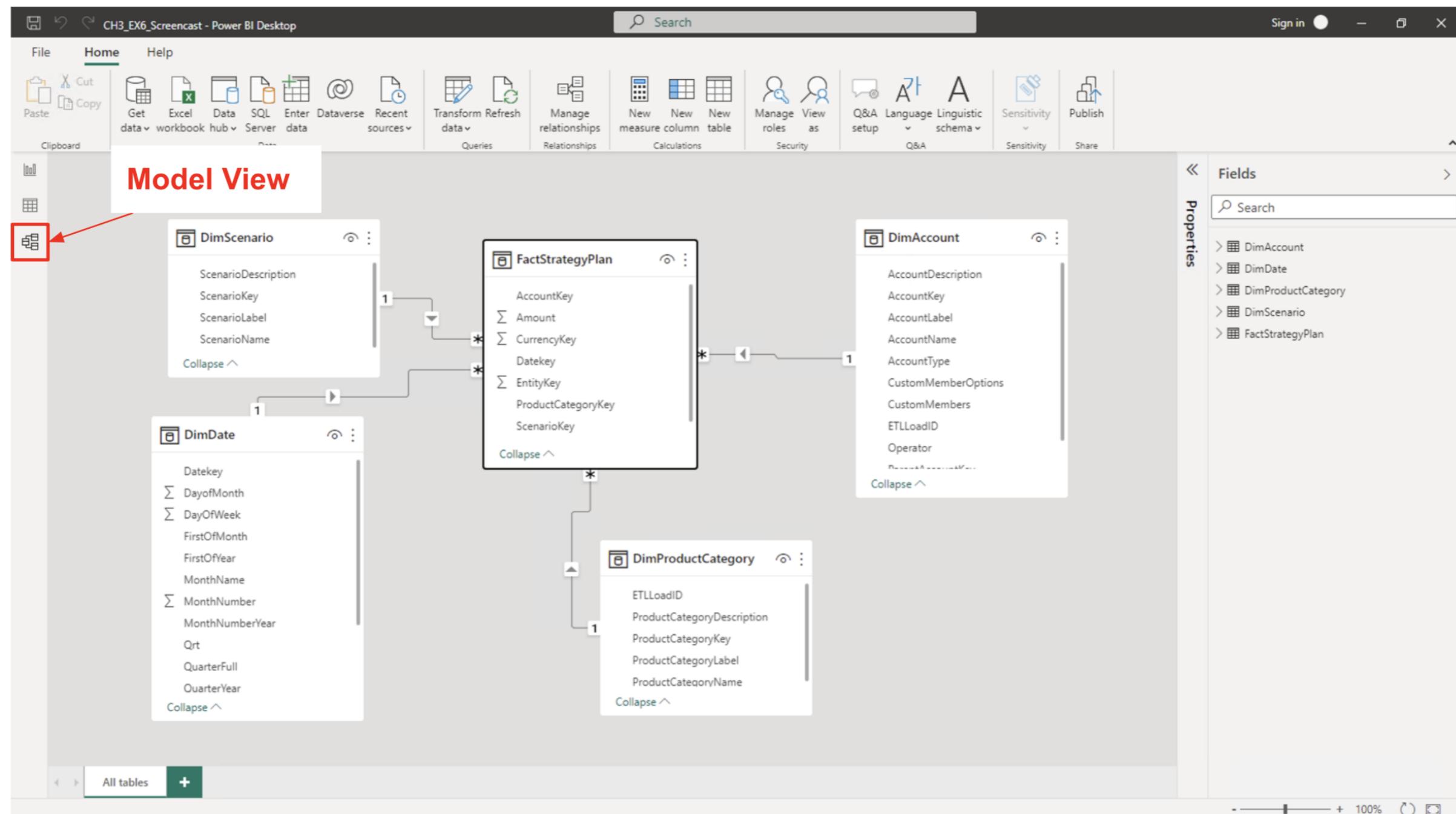
At the bottom, there are navigation controls for pages (Page 1, +), a zoom slider (78%), and a "Page 1 of 1" status message.

Power BI Interface - Data View

The screenshot shows the Power BI Desktop interface with the title bar "CH3_EX6_Screencast - Power BI Desktop". The "Table tools" tab is selected in the ribbon. A red box highlights the "Structure" icon in the toolbar, which has an arrow pointing to it from the text "Data View". The main area displays the "DimAccount" table with 24 rows. The columns are: AccountKey, ParentAccountKey, AccountLabel, AccountName, AccountDescription, AccountType, Operator, CustomMembers, ValueType, CustomMemberOptions, and ETLLoadID. The table contains various account names like "Profit and Loss after tax", "Income", "Expense", etc., with their corresponding descriptions and types. The right side of the screen shows the "Data" pane with a tree view of the DimAccount table's columns. The bottom left corner of the table area says "Table: DimAccount (24 rows)".

AccountKey	ParentAccountKey	AccountLabel	AccountName	AccountDescription	AccountType	Operator	CustomMembers	ValueType	CustomMemberOptions	ETLLoadID
1^000			Profit and Loss after tax	Profit and Loss after tax	NULL	NULL	NULL	NULL	NULL	1
			00 Income	Income	Income	+	NULL	Income	+	1
			00 Expense	Expense	Expense	-	NULL	Expense	-	1
			00 Sale Revenue	Sale Revenue	Income	+	NULL	Income	+	1
5	3		112100 Cost of Goods Sold	Cost of Goods Sold	Expense	+	NULL	Expense	+	1
6	3		112200 Selling, General & Administrative Expenses	Selling, General & Administrative Expenses	Expense	+	NULL	Expense	+	1
7	6		112300 Administration Expense	Administration Expense	Expense	+	NULL	Expense	+	1
8	6		112400 IT Cost	IT Cost	Expense	+	NULL	Expense	+	1
9	6		112500 Human Capital	Human Capital	Expense	+	NULL	Expense	+	1
10	6		112600 Light, Heat, Communication Cost	Light, Heat, Communication Cost	Expense	+	NULL	Expense	+	1
11	6		112700 Property Costs	Property Costs	Expense	+	NULL	Expense	+	1
12	6		112800 Other Expenses	Other Expenses	Expense	+	NULL	Expense	+	1
13	6		112900 Marketing Cost	Marketing & Advertisement Cost	Expense	+	NULL	Expense	+	1
14	13		112910 Holiday Ad Cost	Holiday Ad Cost	Expense	+	NULL	Expense	+	1
15	13		112920 Spring Ad Cost	Spring Ad Cost	Expense	+	NULL	Expense	+	1
16	13		112930 Back-to-School Ad Cost	Back-to-School Ad Cost	Expense	+	NULL	Expense	+	1
17	13		112940 Business Ad Cost	Business Ad Cost	Expense	+	NULL	Expense	+	1
18	13		112950 Tax Time / Summer Ad Cost	Tax Time / Summer Ad Cost	Expense	+	NULL	Expense	+	1
19	1		131000 Taxation	Taxation	Taxation	-	NULL	Taxation	-	1
20	14		112911 Radio & TV	Holiday Ad Cost by Radio & TV	Expense	+	NULL	Expense	+	1
21	14		112912 Print	Holiday Ad Cost by Print	Expense	+	NULL	Expense	+	1
22	14		112913 Internet	Holiday Ad Cost by Internet	Expense	+	NULL	Expense	+	1
23	14		112914 Other	Holiday Ad Cost by Other	Expense	+	NULL	Expense	+	1
24	1		110000 Profit and Loss before tax	Profit and Loss before tax	NULL	+	NULL	NULL	+	1

Power BI Interface - Model View



Power BI Interface - Canvas area

The screenshot shows the Power BI Desktop application window titled "CH3_EX6_Screencast - Power BI Desktop". The interface includes a ribbon menu with File, Home, Insert, Modeling, View, and Help tabs. The Home tab is selected, displaying various icons for data management (Get data, Transform data, New visual), queries (Refresh data, New measure), and publishing (Publish). The main canvas area contains two visualizations: a large blue bar chart titled "Amount by AccountType" showing a total of 53.64bn, and a smaller bar chart titled "Amount by MonthName and ScenarioName" comparing Actual, Budget, and Forecast values across months from November to January. A red box highlights the top section of the canvas. To the right of the canvas are three panes: "Filters", "Visualizations", and "Fields". The "Filters" pane shows a list of years from 2015 to 2020. The "Visualizations" pane lists various data sources like DimAccount, DimDate, and FactStrategyPlan. The "Fields" pane allows adding data fields and drill-through fields. At the bottom, there are navigation controls for pages and a zoom slider set at 78%.

CH3_EX6_Screencast - Power BI Desktop

File Home Insert Modeling View Help

Cut Copy Format painter Paste Get data workbook hub Data SQL Server Enter Dataverse Recent sources Transform data New visual Text box More visuals New measure measure Sensitivity Publish Clipboard

Amount by AccountType

53.64bn Amount

Income Expense

Select all
2020
2019
2018
2017
2016
2015

Amount by MonthName and ScenarioName

ScenarioName Actual Budget Forecast

2bn
1bn
0bn

MonthName November December May July August June October April September March February January

ScenarioName Audio Cameras and camcorders Cell phones Computers Games and Toys Home Appliances Music, Movies and TV and Video Audio Books

	Actual	Budget	Forecast	Cameras and camcorders	Cell phones	Computers	Games and Toys	Home Appliances	Music, Movies and TV and Video	Audio Books			
Total	273,081,757.15	256,826,621.81	273,397,435.67	3,587,092,338.37	3,347,605,529.68	3,572,004,626.25	1,287,810,461.47	4,593,694,374.88	218,933,396.02	5,665,988,969.42	230,738,587.69	2,485,487,457.19	
Actual	273,081,757.15	256,826,621.81	273,397,435.67	3,587,092,338.37	3,347,605,529.68	3,572,004,626.25	1,287,810,461.47	4,593,694,374.88	218,933,396.02	5,665,988,969.42	230,738,587.69	2,485,487,457.19	
Budget													
Forecast													
Total	803,305,814.64	10,506,702,494.30	3,781,181,962.35	13,487,431,779.03	645,713,709.26	16,629,515,967.52	675,921,659.33	7,112,453,151.25					

Canvas

Page 1 +

Page 1 of 1

78%

Power BI Interface - Filters pane

The screenshot shows the Power BI Desktop application window titled "CH3_EX6_Screencast - Power BI Desktop". The interface includes a ribbon menu with File, Home, Insert, Modeling, View, and Help tabs. The Home tab is selected. Below the ribbon are various icons for data management, such as Get data, Transform, and Publish.

The main workspace displays three visualizations:

- A large blue bar chart titled "Amount by AccountType" showing a total of 53.64bn.
- A bar chart titled "Amount by MonthName and ScenarioName" comparing Actual, Budget, and Forecast values across months from November to January.
- A detailed table titled "ScenarioN" showing financial data for various product categories like Audio, Cameras and camcorders, Cell phones, Computers, Games and Toys, Home Appliances, Music, Movies and TV and Video Audio Books, categorized by Actual, Budget, Forecast, and Total.

The right side of the screen features the "Filters" pane, which is highlighted with a red box. The pane contains sections for "Filters on this page" and "Filters on all pages", both with "Add data fields here" buttons. It also includes sections for "Values", "Drill through" (with "Cross-report" off), and "Keep all filters" (which is turned on). A red text overlay "Filters Pane" is placed over the pane's header.

Power BI Interface - Visualizations pane

The screenshot shows the Power BI Desktop application window titled "CH3_EX6_Screencast - Power BI Desktop". The ribbon menu is visible at the top, and the main workspace contains three visualizations: a treemap chart titled "Amount by AccountType" showing a total of 53.64bn, a bar chart titled "Amount by MonthName and ScenarioName" comparing Actual, Budget, and Forecast values across months, and a data grid titled "ScenarioName" showing financial data for various categories like Audio, Cameras and camcorders, Cell phones, etc.

Visualizations Pane

The "Visualizations" pane on the right side of the interface is highlighted with a red box. It contains sections for "Build visual", "Filters", "Fields", and "Values".

- Build visual:** Shows icons for different visualization types.
- Filters:** Includes "Filters on this page" (with a search bar and "Add data fields here" button) and "Filters on all pages" (with a search bar and "Add data fields here" button).
- Fields:** Shows a search bar and a list of fields: DimAccount, DimDate, DimProductCategory, DimScenario, and FactStrategyPlan.
- Values:** Shows an "Add data fields here" button.

Drill through: Includes "Cross-report" (radio button set to "Off") and "Keep all filters" (radio button set to "On").

Add drill-through fields here: An "Add data fields here" button.

Power BI Interface - Fields pane

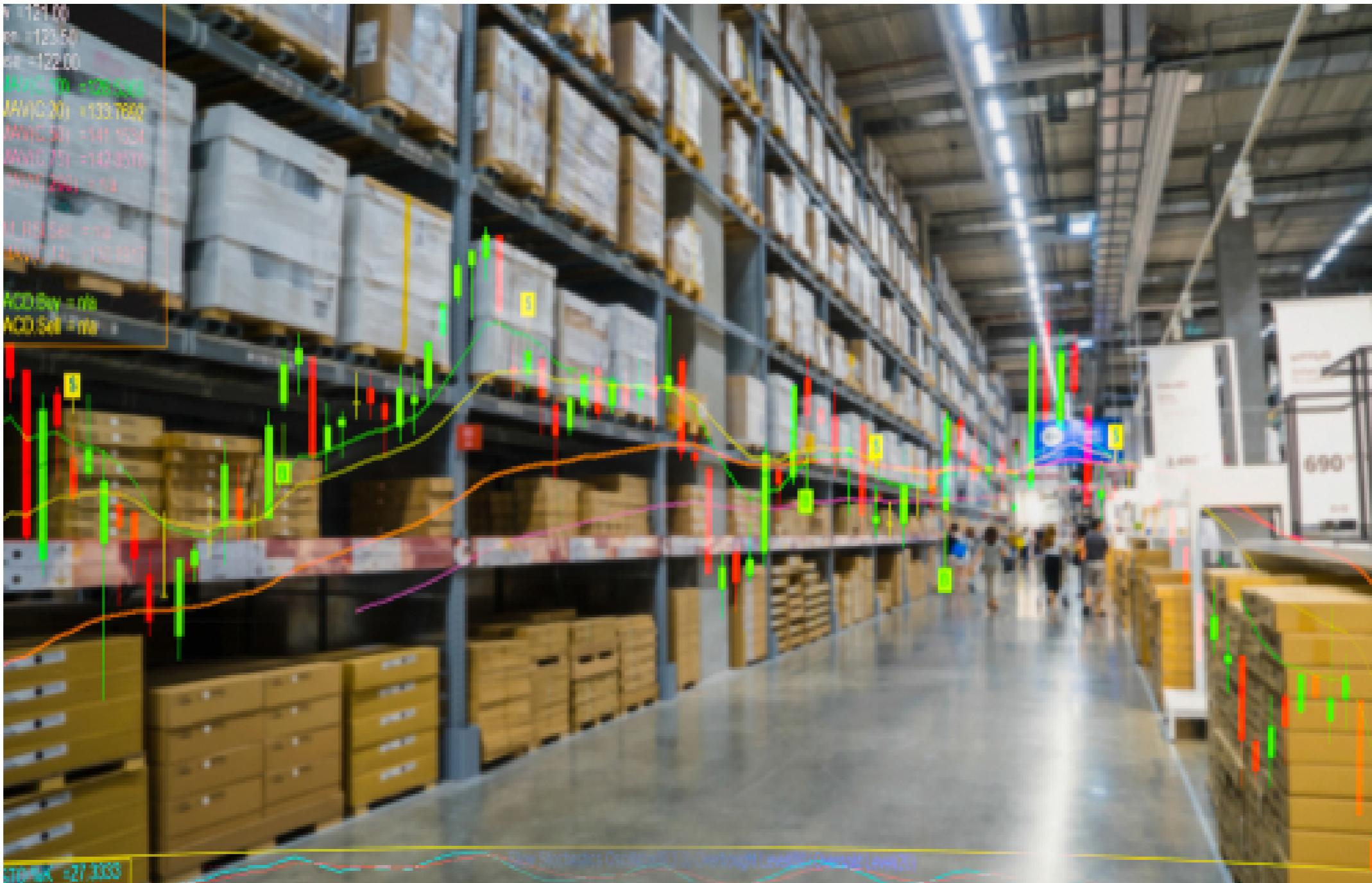
The screenshot shows the Power BI Desktop application window titled "CH3_EX6_Screencast - Power BI Desktop". The interface includes a ribbon menu with File, Home, Insert, Modeling, View, and Help tabs. The Home tab is selected. Below the ribbon are various icons for data management (Get data, Transform data, New visual, etc.) and publishing (Publish). The main workspace displays three visualizations: a treemap chart titled "Amount by AccountType" showing a total of 53.64bn, a bar chart titled "Amount by MonthName and ScenarioName" comparing Actual, Budget, and Forecast values across months, and a table titled "ScenarioName" showing detailed financial data for various categories like Audio, Cameras and camcorders, Cell phones, Computers, Games and Toys, Home Appliances, Music, Movies and TV and Video Audio Books, categorized by Actual, Budget, Forecast, and Total.

Fields Pane

The right side of the interface features several panes:

- Filters**: A pane containing a search bar and sections for "Filters on this page" and "Filters on all pages", each with an "Add data fields here" button.
- Visualizations**: A pane listing available visualizations: DimAccount, DimDate, DimProductCategory, DimScenario, and FactStrategyPlan.
- Fields**: A pane with a search bar and sections for "Build visual", "Values" (with an "Add data fields here" button), "Drill through" (with "Cross-report" and "Keep all filters" options), and "Add drill-through fields here".

Wide World Importers (WWI) dataset



Wide World Importers (WWI) dataset structure

- Star schema
- **Fact Table:**
 - FactSales.csv
- **Dimension Tables:**
 - DimCustomer.csv
 - DimEmployee.xlsx
 - DimStockItem.csv
 - DimDate.csv
 - DimCity.csv

Let's practice!

INTRODUCTION TO POWER BI

Getting started!

INTRODUCTION TO POWER BI



Iason Prassides

Content Developer, DataCamp

Let's practice!

INTRODUCTION TO POWER BI

Slicers and Tables

INTRODUCTION TO POWER BI



Iason Prassides

Content Developer, DataCamp

Let's practice!

INTRODUCTION TO POWER BI

Data Analyst in Power BI track

INTRODUCTION TO POWER BI



Iason Prassides

Content Developer, DataCamp

What is the Data Analyst in Power BI track?



- Data Analyst in Power BI track co-created with Microsoft
- 18 courses with over 50 hours of learning material
- Learn how Power BI can be used to:
 - Import data
 - Clean data
 - Manipulate data
 - Visualize data

Exam PL-300: Microsoft Power BI Data Analyst



- Courses cover the main skills required
 - Prepare the data
 - Model the data
 - Visualize and analyze the data
 - Deploy and maintain assets
- Become Microsoft Certified: Power BI Data Analyst Associate
- Get a **50% discount code** for the PL-300 exam once you have completed DataCamp's Data Analyst in Power BI track

Let's practice!

INTRODUCTION TO POWER BI