

Introduction to Power BI

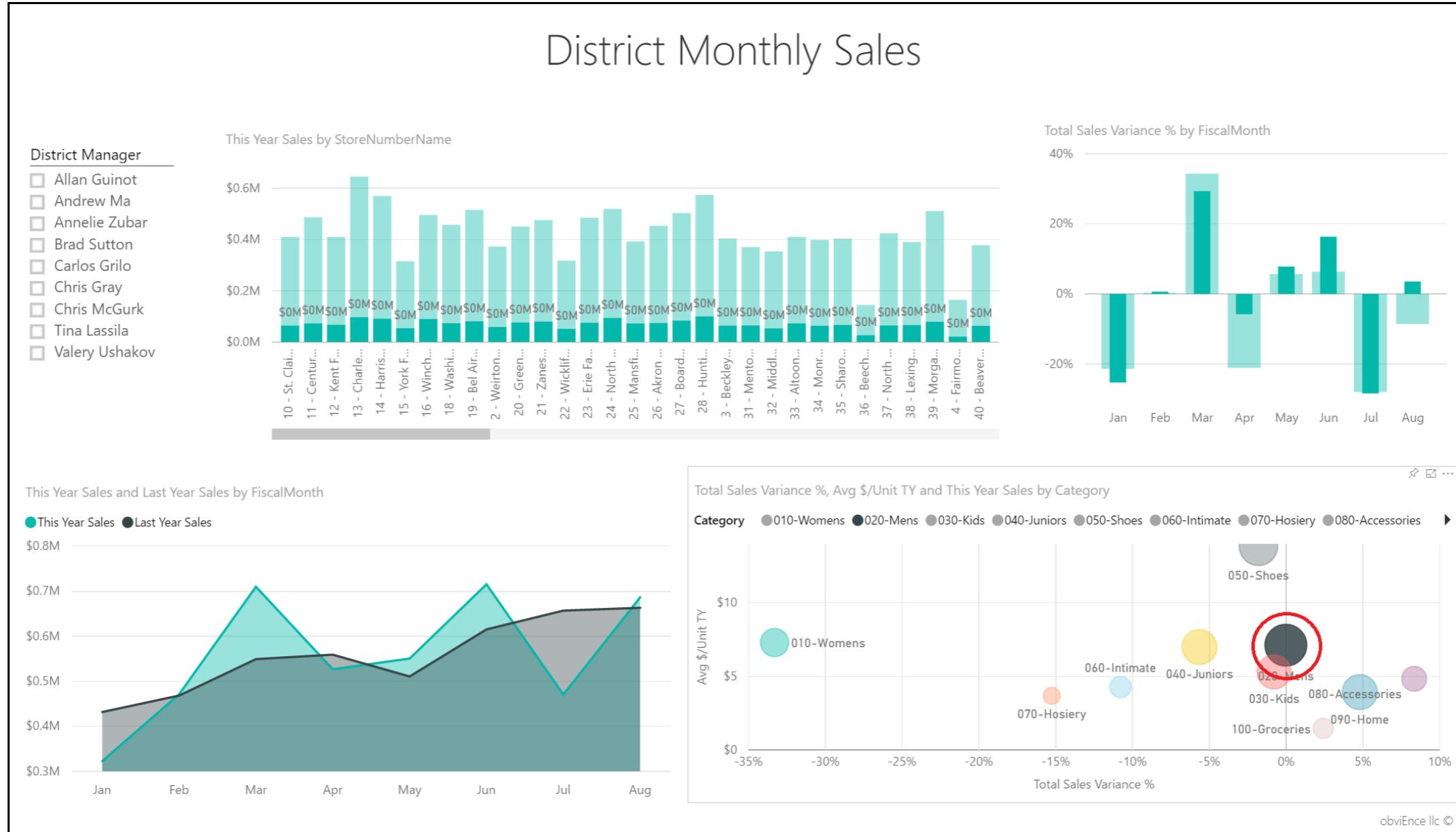
INTRODUCTION TO POWER BI



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
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:

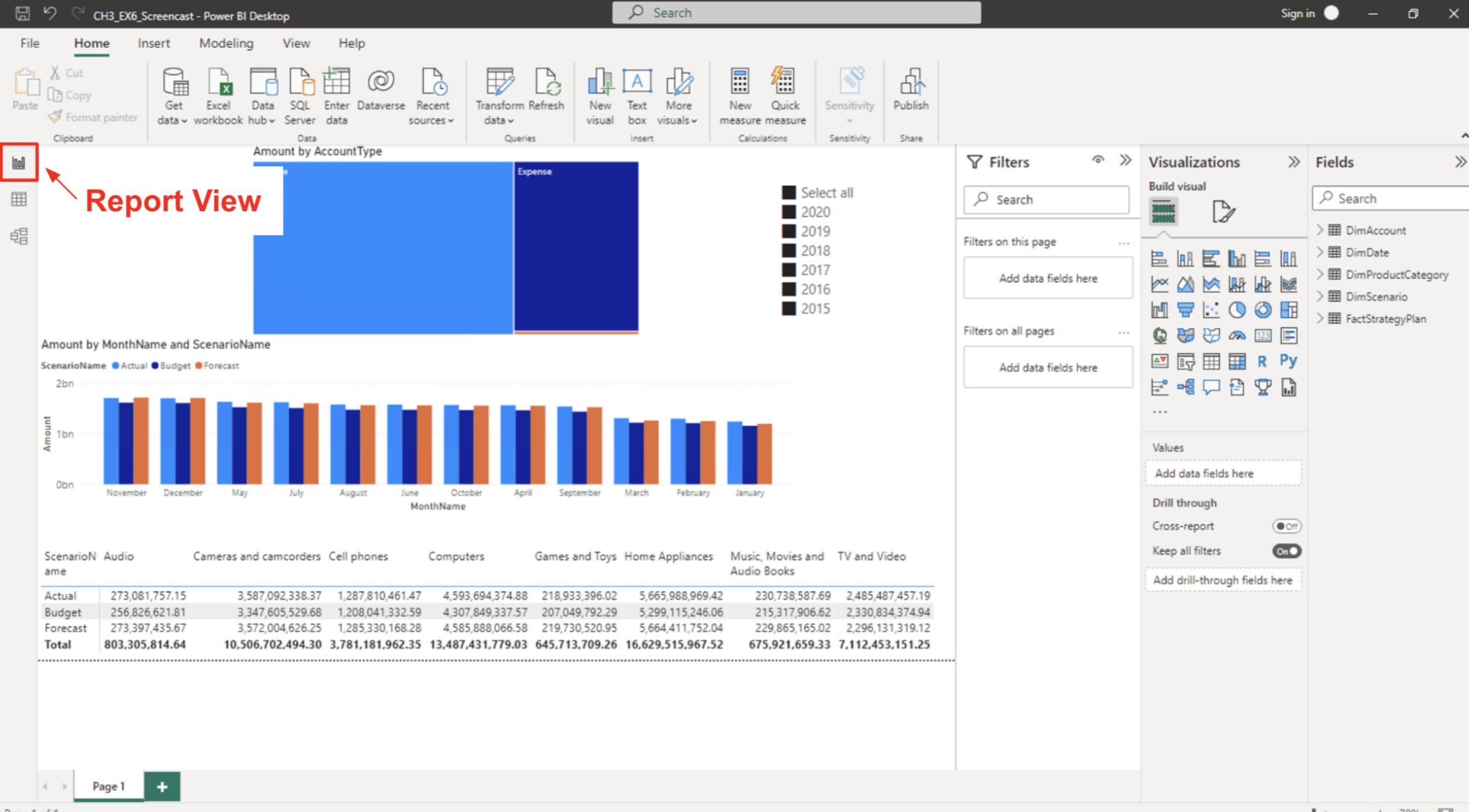
- Left Panel (Dark Gray):** Labeled "Power BI Desktop". It features a "Get data" button and a "Recent sources" section. A red box highlights the "Get data" button and the "Recent sources" section. Below this is a list of recent reports:
 - 4_2_qa_visual.pbix (C: » Users » Public » Courses » reports-in-pow...)
 - EmptyReport.pbix (C: » Users » Public » Documents)
 - CH4_EX3_Screencast.pbix (Desktop)
 - CH4_EX6_Screencast.pbix (C: » Users » instructor » Desktop » Contoso - D...)A red box highlights the "Open other reports" button at the bottom.
- Middle Panel (White):** Labeled "Collaborate and share". It shows a user icon and text encouraging sign-in for publishing reports. A "Get started" button is present. Below it, a link says "Want to buy a Power BI license? Buy now".
- Right Panel (Dark Green):** Labeled "WHAT'S NEW" with a "Close" button (highlighted by a red arrow). It includes sections for "POWER BI BLOG" (with a link to "Keep up to date"), "FORUMS" (with a link to "Visit the Power BI Forum"), and "TUTORIALS" (with a link to "Ready to learn more about Power BI?").

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 showing sales data for various product categories (Cameras and camcorders, Cell phones, Computers, Games and Toys, Home Appliances, Music, Movies and Audio Books) categorized by ScenarioName (Actual, Budget, Forecast) and ProductCategory.
- Data View (Middle):** Located in the bottom right of the dashboard area, showing the underlying data for the selected filters.
- Fields View (Right):** A sidebar containing:
 - Filters:** A list of available filters for the current page, including years from 2015 to 2020.
 - Visualizations:** A list of all visualizations in the report.
 - Fields:** A list of all fields in the data model, grouped by dimension tables (DimAccount, DimDate, DimProductCategory, DimScenario) and fact tables (FactStrategyPlan).

Power BI Interface - Report View



The screenshot shows the Power BI Desktop application window titled "CH3_EX6_Screencast - Power BI Desktop". The ribbon is visible at the top with tabs: File, Home, Insert, Modeling, View, and Help. The "Home" tab is selected. The main area displays three visualizations: a treemap chart titled "Amount by AccountType" (Expense), a bar chart titled "Amount by MonthName and ScenarioName" comparing Actual, Budget, and Forecast values across months from November to January, and a data grid showing financial details for various categories like Audio, Cameras and camcorders, Cell phones, Computers, Games and Toys, Home Appliances, Music, Movies and Audio Books, and TV and Video.

Report View

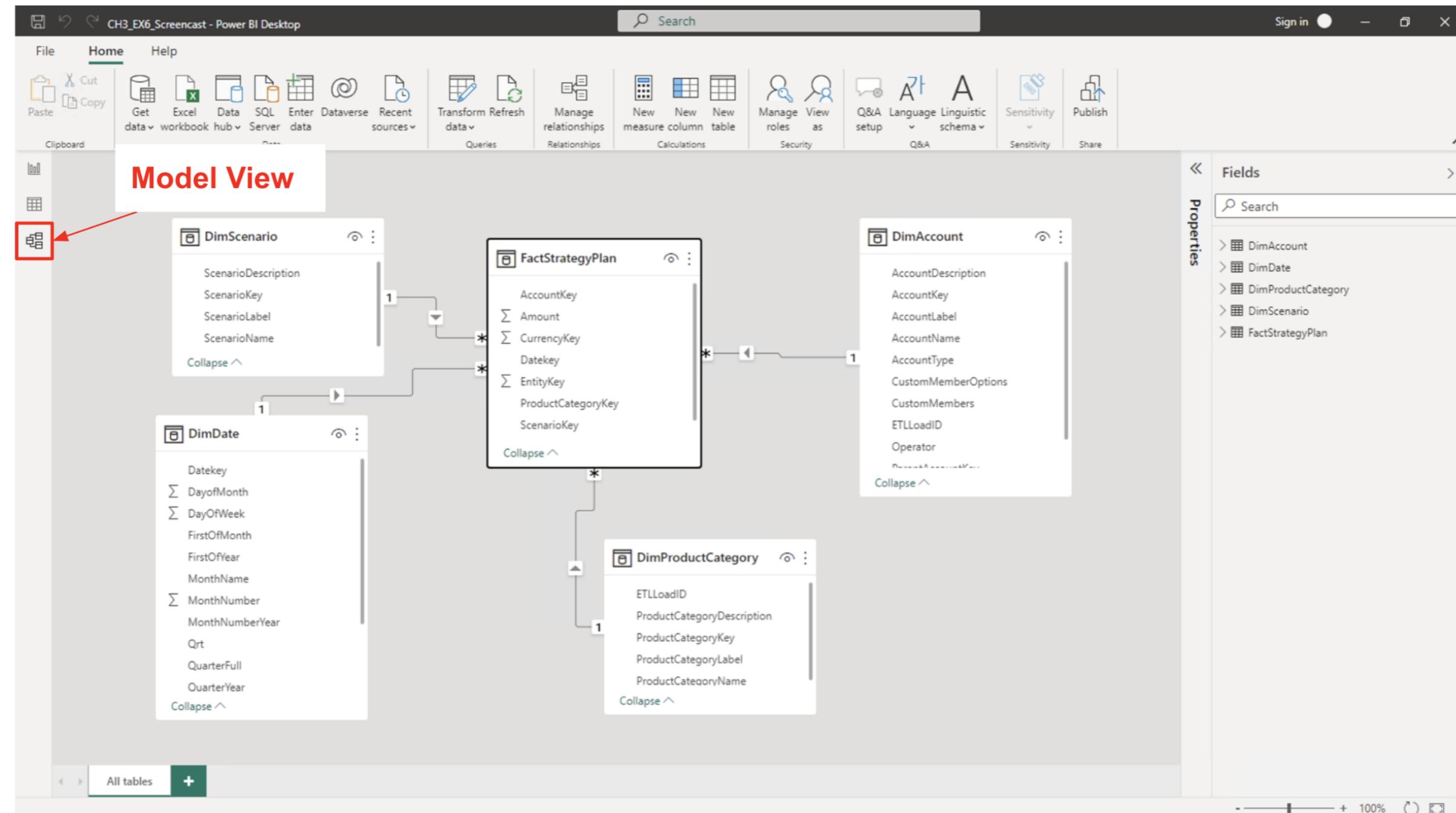
ScenarioName	Audio	Cameras and camcorders	Cell phones	Computers	Games and Toys	Home Appliances	Music, Movies and Audio Books	TV and Video
Actual	273,081,757.15	3,587,092,338.37	1,287,810,461.47	4,593,694,374.88	218,933,396.02	5,665,988,969.42	230,738,587.69	2,485,487,457.19
Budget	256,826,621.81	3,347,605,529.68	1,208,041,332.59	4,307,849,337.57	207,049,792.29	5,299,115,246.06	215,317,906.62	2,330,834,374.94
Forecast	273,397,435.67	3,572,004,626.25	1,285,330,168.28	4,585,888,066.58	219,730,520.95	5,664,411,752.04	229,865,165.02	2,296,131,319.12
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

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 includes various account categories like Profit and Loss after tax, Income, Expense, and Sale Revenue. The Data pane on the right lists the columns of the DimAccount table.

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 dropdown menu for years from 2015 to 2020. The "Visualizations" pane lists various built-in visual types like charts and tables. The "Fields" pane lists data source tables such as DimAccount, DimDate, DimProductCategory, DimScenario, and FactStrategyPlan.

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

Actual

Budget

Forecast

Total

Cameras and camcorders

Cell phones

Computers

Games and Toys

Home Appliances

Music, Movies and Audio Books

TV and Video

ScenarioName	Actual	Budget	Forecast	Cameras and camcorders	Cell phones	Computers	Games and Toys	Home Appliances	Music, Movies and Audio Books	TV and Video
Actual	273,081,757.15	3,587,092,338.37	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	256,826,621.81	3,347,605,529.68	1,208,041,332.59	4,307,849,337.57	207,049,792.29	5,299,115,246.06	215,317,906.62	2,330,834,374.94		
Forecast	273,397,435.67	3,572,004,626.25	1,285,330,168.28	4,585,888,066.58	219,730,520.95	5,664,411,752.04	229,865,165.02	2,296,131,319.12		
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, displaying various data entry and visualization tools like Get data, Transform data, and New visual.

The main workspace contains 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 is divided into sections:

- Filters**: A search bar and a list of filters applied on the current page, including "Select all" and years from 2020 down to 2015.
- Visualizations**: A list of other visualizations available in the report.
- Fields**: A search bar and a list of fields grouped under categories like DimAccount, DimDate, DimProductCategory, DimScenario, and FactStrategyPlan.

A large red box highlights the "Filters" section of the pane, and the text "Filters Pane" is overlaid in red at the bottom left of the box.

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, with "Home" selected. 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 table titled "ScenarioName" showing detailed financial data for various categories like Audio, Cameras and camcorders, Cell phones, etc.

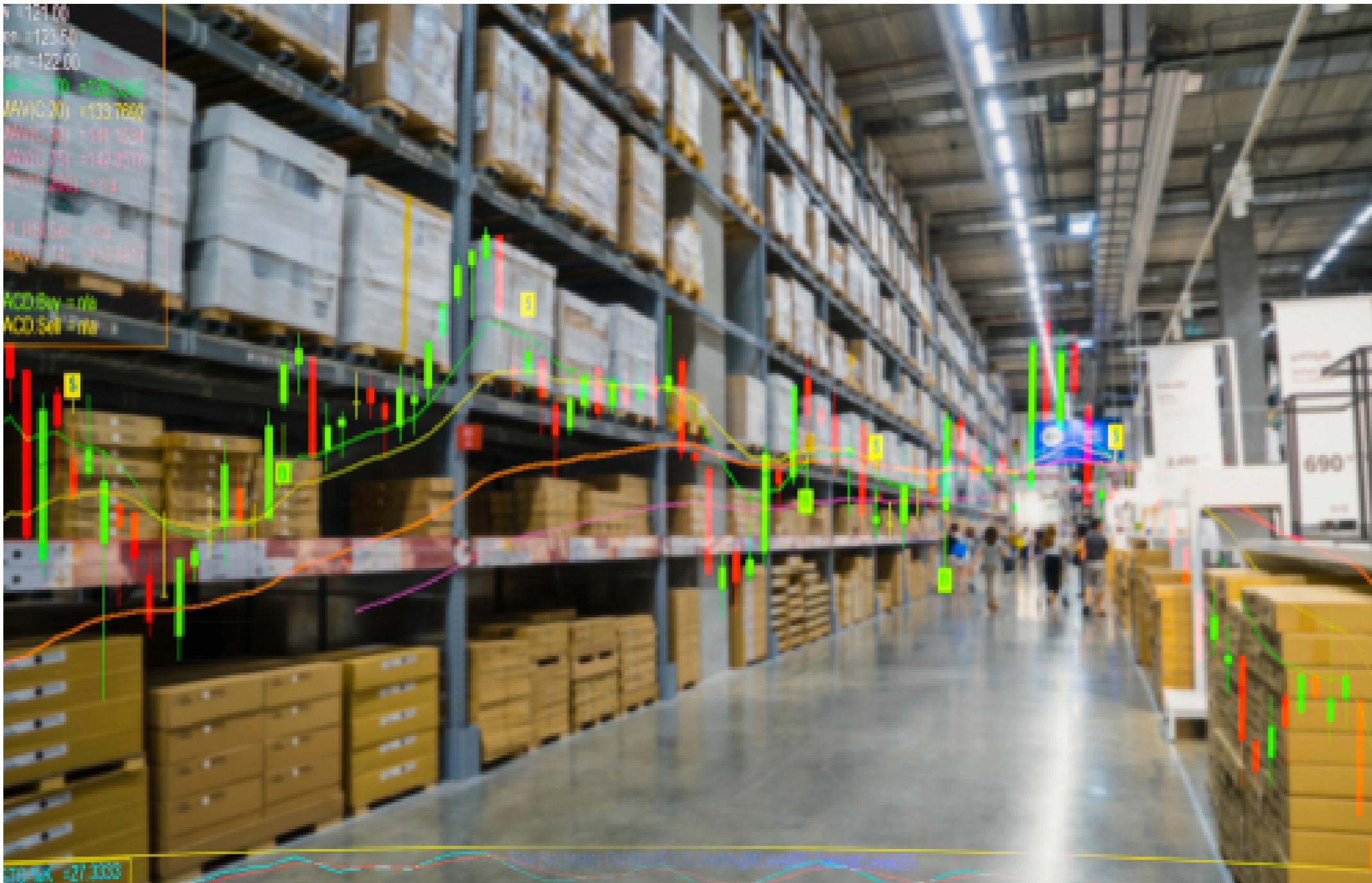
Visualizations Pane

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". The "Filters" section includes dropdown menus for "Select all" and "Filters on this page" (with "Add data fields here") and "Filters on all pages" (with "Add data fields here"). The "Fields" section lists data sources: DimAccount, DimDate, DimProductCategory, DimScenario, and FactStrategyPlan. The "Values" section has an "Add data fields here" button. The "Drill through" section includes "Cross-report" (off) and "Keep all filters" (on). The "Add drill-through fields here" button is also present.

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 data grid showing sales figures for various product categories (Cameras and camcorders, Cell phones, Computers, Games and Toys, Home Appliances, Music, Movies and Audio Books) for different scenarios (Actual, Budget, Forecast). To the right of the workspace is the "Fields pane", which is highlighted with a red box. The Fields pane contains sections for Filters, Visualizations, and Fields. The "Filters" section shows a list of years from 2015 to 2020. The "Visualizations" section lists various data models and tables like DimAccount, DimDate, DimProductCategory, DimScenario, and FactStrategyPlan. The "Fields" section is also labeled with a red box and contains a search bar and a list of fields grouped under "Values" and "Drill through". A red text overlay "Fields Pane" is positioned on the right side of the Fields pane area.

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