

Introduction to Power BI

INTRODUCTION TO POWER BI

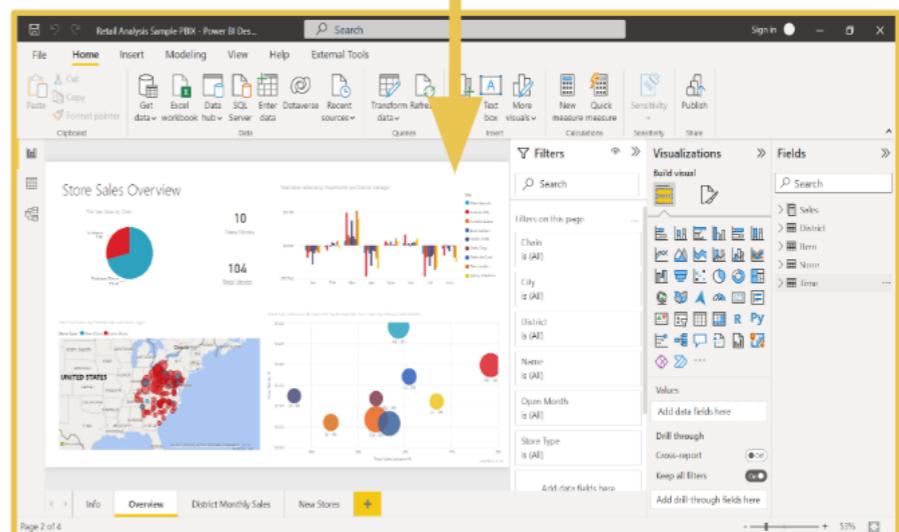
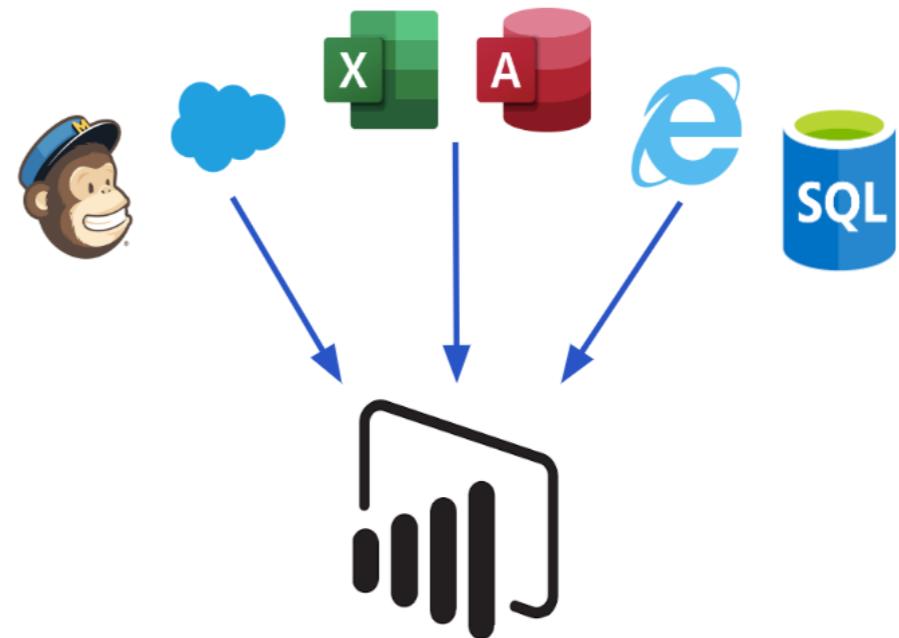


Iason Prassides

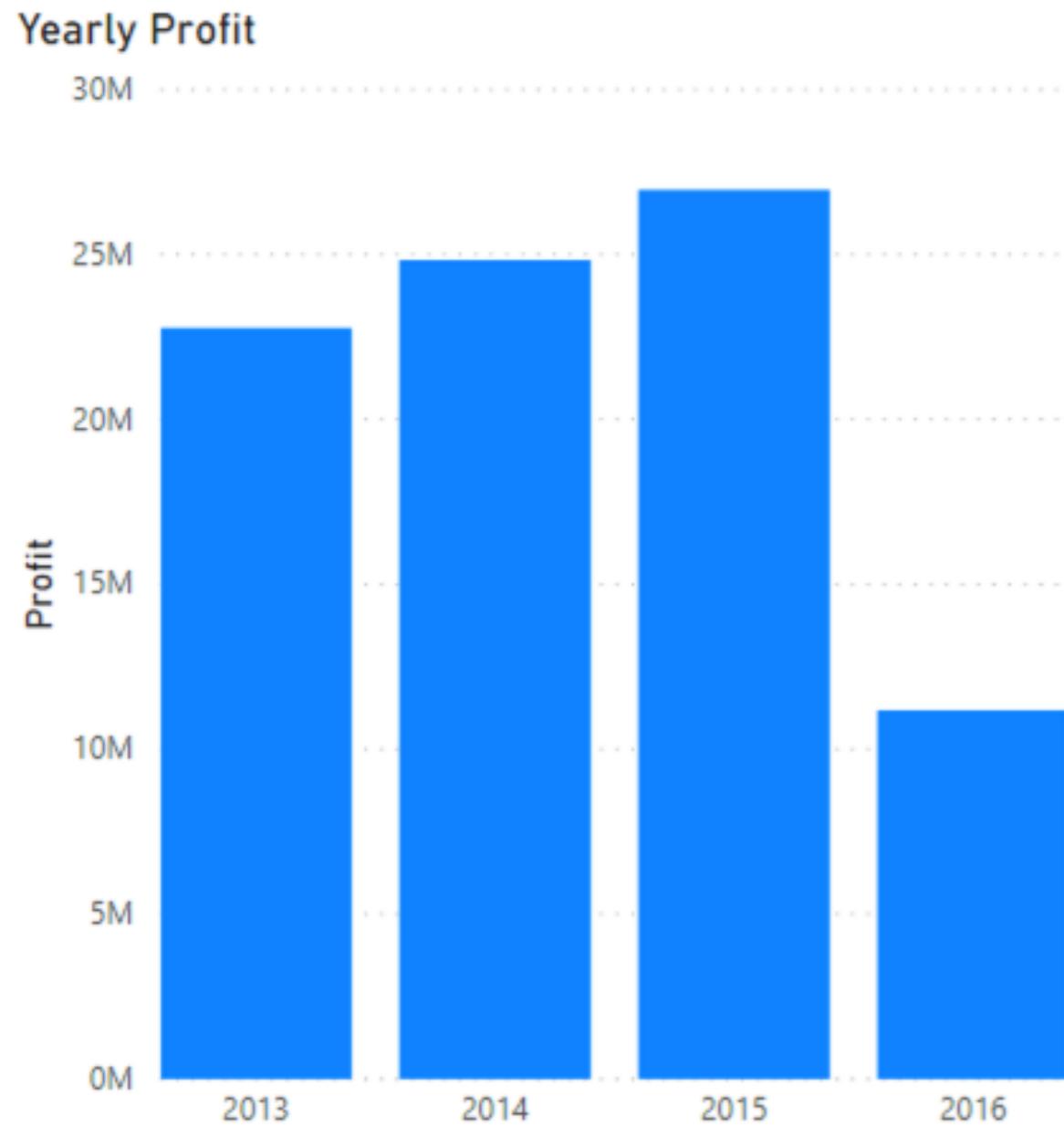
Curriculum Manager, DataCamp

What is Power BI?

- Connect to data
- Clean and structure data
- Create visualizations
- Share findings



Data Visualization in Power BI

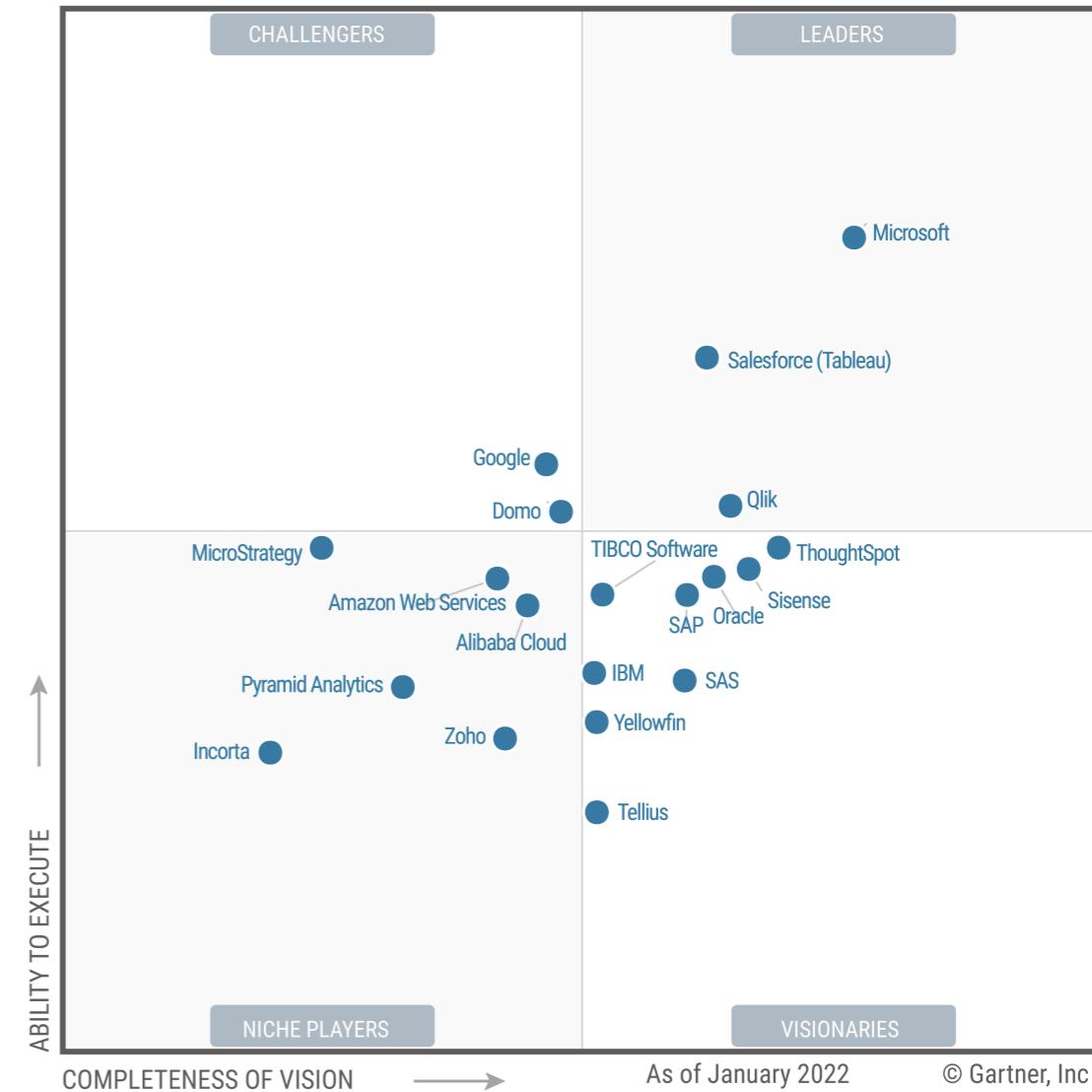


Total Excluding Tax	Tax Amount	Profit	Total Including Tax
129	19.35	67.5	148.35
258	38.7	135	296.7
301	45.15	157.5	346.15
172	25.8	90	197.8
86	12.9	45	98.9
387	58.05	202.5	445.05
387	58.05	202.5	445.05
387	58.05	202.5	445.05
344	51.6	180	395.6
344	51.6	180	395.6
344	51.6	180	395.6
344	51.6	180	395.6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

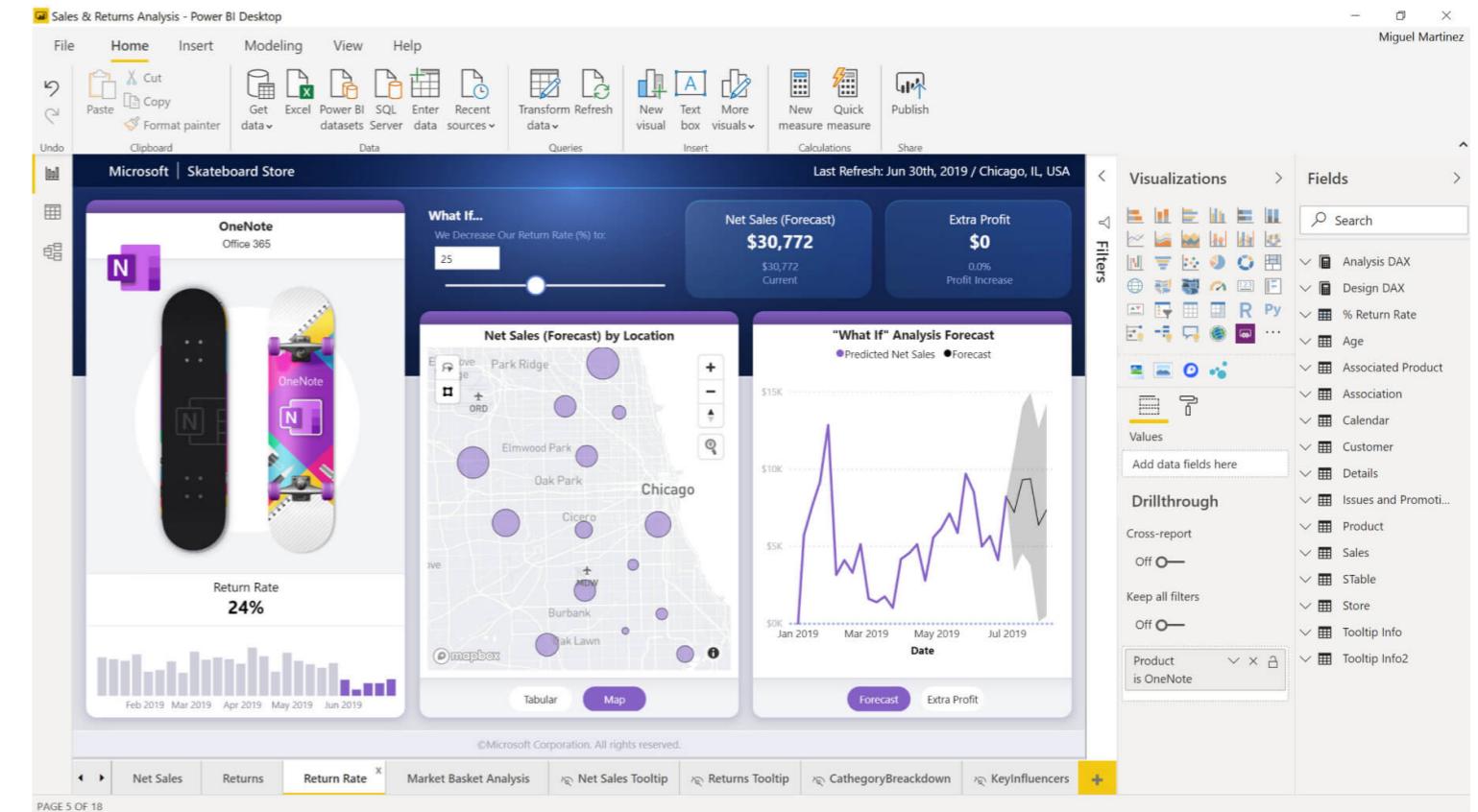
- Leading BI tool according to Gartner
- Over 97% of Fortune 500 companies use Power BI
- Over 6 million customers
- Mastering Power BI can advance your career

Figure 1: Magic Quadrant for Analytics and Business Intelligence Platforms



Power BI Desktop

- Data analysis and report creation tool
- Includes the Power Query Editor
- 100% free
- Paid licenses available:
 - Power BI Pro
- Publish and share material on cloud platform
- Collaborate with other Power BI users



¹ <https://powerbi.microsoft.com/en-cy/desktop/>

Power BI Service

- Cloud-based version
- License required to access all features
- Share and distribute reports

The screenshot shows the Power BI Service Home page. On the left, there's a sidebar with various navigation options: Home, Create, Browse, Onramp data hub, Apps, Metrics, Monitor, Learn, Real-Time hub, Workspaces, and a workspace named 'workspace-0e57af90-5ccb-411f-94d6-5e8555217882'. The main area is titled 'Recommended' and displays five cards with 'Open' buttons: 'Explore basic Power BI concepts', 'Intro—What is Power BI?', 'Quick start—Getting around in the service', 'View and understand a Power BI report', and 'How to: Know your content is up to date'. Below this, there's a 'Recent' section showing a single workspace entry: 'workspace-0e57af90-5ccb-411f-94d6-5e8555217882' (Type: Workspace, Opened: 42 seconds ago). At the bottom right, there are search and filter buttons.

Power BI Interface - Four views

The screenshot displays the Power BI Desktop application window with the following components:

- Top Bar:** Includes File, Home, Insert, Modeling, View, Optimize, Help menus; a Search bar; and a Sign in button.
- Home Tab:** Contains icons for Paste, Cut, Copy, Format painter, Get data, OneLake, SQL Server, Enter data, Recent sources, Transform data, Refresh data, New visual, Text box, More visuals, New measure, Quick measure, Calculations, Sensitivity, Share, and Copilot.
- Visuals Area:** Shows three main visualizations:
 - A large card visualization titled "Amount by AccountType" with the value "53.64bn". The card has four numbered callouts (1, 2, 3, 4) pointing to its top-left corner.
 - A treemap visualization titled "Amount by AccountType" divided into "Income" (blue) and "Expense" (purple) sections.
 - A bar chart titled "Amount by MonthName and ScenarioName" comparing Actual (blue), Budget (purple), and Forecast (orange) amounts across months from November to January.
- Filters Panel:** Located on the right, it includes:
 - Filters:** 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 search bar and a list of available visualizations: DimAccount, DimDate, DimProductCategory, DimScenario, and FactStrategyPlan.
 - Data:** A search bar and sections for "Values", "Drill through", "Cross-report", and "Keep all filters".
- Table:** A data grid showing monthly sales for various product categories under "ScenarioName".

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	1,205,330,160.28	4,585,000,066.58	219,730,520.95	5,664,411,752.04	229,065,165.02	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
- Page Control:** Includes navigation buttons for Page 1 and a zoom control at the bottom right.

Power BI Interface - Four views

The screenshot shows the Power BI Desktop application window. On the left, there are four icons with red arrows pointing to them, labeled from top to bottom: 'Report View' (document icon), 'Table View' (grid icon), 'Model View' (cube icon), and 'DAX Query Editor' (SQL icon). The main area displays two visualizations: a treemap titled 'Amount by AccountType' and a bar chart titled 'Amount by MonthName and ScenarioName'. The bar chart shows monthly amounts for Actual, Budget, and Forecast scenarios. Below the charts is a table titled 'ScenarioName' with columns for various product categories and rows for Actual, Budget, Forecast, and Total values. The ribbon menu at the top includes Home, Insert, Modeling, View, Optimize, and Help tabs. The ribbon also features icons for Paste, Cut, Copy, Format painter, Get data, OneLake, SQL Server, Enter data, Data hub, Recent sources, Transform data, Refresh data, New visual, Text box, More visuals, New measure, Quick measure, Calculations, Sensitivity, Share, Publish, and Copilot.

Report View

Table View

Model View

DAX Query Editor

Amount by AccountType

Income Expense

Amount by MonthName and ScenarioName

ScenarioName: Actual Budget Forecast

ScenarioName	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	1,205,330,160.28	4,585,000,066.58	219,730,520.95	5,664,411,752.04	229,065,165.02	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

Page 1 of 1

Page 1

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Power BI Interface - Canvas area

The screenshot shows the Power BI Desktop application window. The main area, labeled "Canvas" at the bottom center, contains a dashboard with three visualizations:

- A large blue square visualization titled "Amount by AccountType" with the value "53.64bn". It has a legend on the right showing years from 2015 to 2020.
- A bar chart titled "Amount by MonthName and ScenarioName". The Y-axis ranges from 0.0bn to 2.0bn. The X-axis lists months from November to January. The chart uses three colors: blue for Actual, purple for Budget, and orange for Forecast.
- A table titled "ScenarioName" showing financial data for various product categories across four scenarios: Actual, Budget, Forecast, and Total. The categories include Cameras and camcorders, Cell phones, Computers, Games and Toys, Home Appliances, Music, Movies and Audio Books, and TV and Video.

The ribbon menu at the top includes File, Home, Insert, Modeling, View, Optimize, and Help. The Home tab is selected. The ribbon also features sections for Data, Queries, Calculations, Sensitivity, and Copilot. The right side of the interface contains the Visualizations pane, which lists various visualization types like Map, Gauge, and Card, and the Data pane, which shows filters and data fields.

Power BI Interface - Filters pane

The screenshot shows the Power BI Desktop application window. On the left, there are two visualizations: a treemap chart titled "Amount by AccountType" showing "Income" and "Expense" categories, and a bar chart titled "Amount by MonthName and ScenarioName" comparing Actual, Budget, and Forecast values across months from November to January. Below these are several tables of financial data categorized by scenario (Actual, Budget, Forecast, Total) and product type (Cameras and camcorders, Cell phones, Computers, Games and Toys, Home Appliances, Music, Movies and Audio Books). On the right side of the interface is the "Filters" pane, which is highlighted with a red box. The pane contains sections for "Filters on this page" and "Filters on all pages", each with a "Add data fields here" button. It also includes sections for "Values", "Drill through", "Cross-report", and "Keep all filters". A red label "Filters Pane" is overlaid on the right side of the pane.

Power BI Interface - Visualizations pane

The screenshot shows the Power BI Desktop application window. The main area displays three visualizations: a treemap chart titled "Amount by AccountType" with a total value of 53.64bn, a bar chart titled "Amount by MonthName and ScenarioName" comparing Actual, Budget, and Forecast values across months from November to January, and a table titled "ScenarioName" showing detailed financial data for various product categories like Cameras and camcorders, Cell phones, Computers, etc., across four scenarios.

Visualizations Pane

The right side of the interface features the **Visualizations** pane, which is highlighted with a red border. This pane contains several sections:

- Filters**: A search bar and two dropdown menus for "Filters on this page" and "Filters on all pages", each with an "Add data fields here" button.
- Visualizations**: A large library of visualization icons categorized into groups like Cards, Gantt charts, Maps, and Reports.
- Data**: A search bar and a list of data sources including DimAccount, DimDate, DimProductCategory, DimScenario, and FactStrategyPlan.
- Values**: A section for "Add data fields here".
- Drill through**: Options for "Cross-report" (off) and "Keep all filters" (on).
- Add drill-through fields here**: A section for adding drill-through fields.

Power BI Interface - Data pane

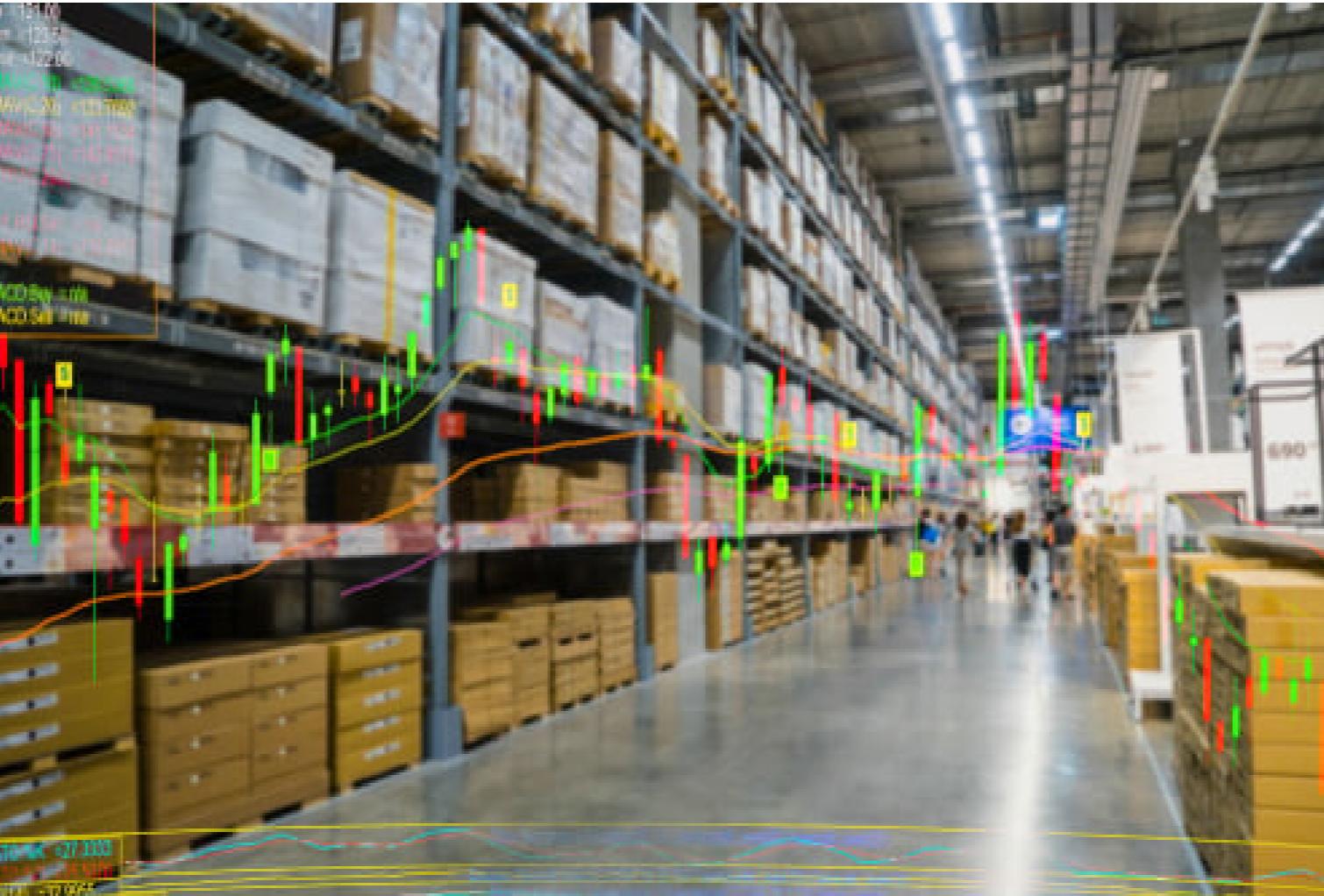
The screenshot shows the Power BI Desktop application window. On the left, there's a visual titled "Amount by AccountType" which is a stacked bar chart with "Income" in blue and "Expense" in purple. Below it is another visual titled "Amount by MonthName and ScenarioName", showing a grouped bar chart for months from November to January across three scenarios: Actual (blue), Budget (purple), and Forecast (orange). At the bottom is a table with columns for ScenarioName and various product categories like Cameras and camcorders, Cell phones, Computers, etc., with data for Actual, Budget, Forecast, and Total rows.

The right side of the interface features several panes:

- Filters**: A pane containing dropdown menus for selecting years (2015-2020) and other filters.
- Visualizations**: A large pane displaying icons for various visualization types such as charts, maps, and tables.
- Data**: A pane with a search bar and a list of data models or tables: DimAccount, DimDate, DimProductCategory, DimScenario, and FactStrategyPlan.

A red box highlights the "Data" pane on the far right. The text "Data Pane" is overlaid in red on the right side of this highlighted area.

Wide World Importers (WWI) dataset



- **NOTE:** All datasets used in the course can be found [here](#) and on the course overview page.
 - This includes demo video files

Wide World Importers (WWI) dataset

- Sales information (fact table):
 - FactSales.csv
- Further transaction details (dimension tables):
 - DimCustomer.csv
 - DimEmployee.xlsx
 - DimStockItem.csv
 - DimDate.csv
 - DimCity.csv



Let's practice!

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Getting started!

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Let's practice!

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Slicers and Tables

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Data Analyst in Power BI track

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What is the Data Analyst in Power BI track?



- Data Analyst in Power BI track co-created with Microsoft
- 17 courses with over 45 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!

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