

1. Project Objective To design and build a comprehensive HR Analytics Dashboard using Power BI, which helps HR managers and executives monitor employee performance retention trends, department-level KPIs, and engagement levels using interactive visuals, DAX measures, Power Query transformation, and publishing to the Power BI Online Service.

2. Dataset Details

- Table Name: Employee_Performance

- Columns:

- Employment_id
- Department
- Age
- Job Title
- Hire_Date
- Years_at_company
- Education_level
- Performance_Score
- Monthly_Salary
- Work_Hours_per_Week
- Project_Handled
- Overtime_Hours
- Sick_Days
- Remote_Work_Frequency
- Team_Size
- Training_Hours
- Promotions
- Employee_Satisfaction_Score
- Resigned (Yes/No)

3. Power Query Editor – Data Preparation Steps:

- Rename Columns to follow proper casing (e.g., Employment ID, Work Hours per Week).
- Change Data Types:
 - Dates: Hire_Date
 - Numeric: Monthly_Salary, Age, Years_at_company, etc.
 - Text: Job Title, Department, etc.

The screenshot displays the Microsoft Power Query Editor. The main area shows a table with the following columns: Age, Job Title, Hire Date, Years At Company, Education Level, and Performance Score. The data is organized into rows, with the first row showing a Specialist hired on 1/19/2022. The right-hand pane is open, showing the 'PROPERTIES' section with the name 'HR_Analytics' and the 'APPLIED STEPS' section, which includes 'Source', 'Promoted Headers', and 'Changed Type'.

- Remove Duplicates on Employment_id.

Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Properties Advanced Editor Choose Columns Remove Columns Keep Rows Remove Rows Split Column Group By Data Type: Whole Number Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Text Analytics Vision Azure Machine Learning All Insights

Queries [1] HR_Analytics

Table.Distinct("#Changed Type", {"Employee_ID"})

	Employee_ID	Department	Gender	Age	Job Title	Hire Date	Years At Company
1	1	IT	Male		55 Specialist	1/19/2022 8:03:06 AM	
2	2	Finance	Male		29 Developer	4/18/2024 8:03:06 AM	
3	3	Finance	Male		55 Specialist	10/26/2015 8:03:06 AM	
4	4	Customer Support	Female		48 Analyst	10/22/2016 8:03:06 AM	
5	5	Engineering	Female		36 Analyst	7/23/2021 8:03:06 AM	
6	6	IT	Male		43 Manager	8/14/2016 8:03:06 AM	
7	7	IT	Male		37 Technician	8/28/2023 8:03:06 AM	
8	8	Engineering	Female		55 Engineer	10/27/2014 8:03:06 AM	
9	9	Marketing	Female		55 Technician	6/29/2023 8:03:06 AM	
10	10	Engineering	Female		45 Consultant	12/23/2016 8:03:06 AM	
11	11	Customer Support	Male		52 Engineer	11/26/2019 8:03:06 AM	
12	12	Customer Support	Male		27 Technician	2/19/2015 8:03:06 AM	
13	13	HR	Male		51 Technician	7/4/2019 8:03:06 AM	
14	14	Engineering	Male		27 Analyst	10/14/2014 8:03:06 AM	
15	15	Finance	Male		46 Analyst	3/11/2023 8:03:06 AM	
16	16	Customer Support	Male		26 Developer	4/19/2023 8:03:06 AM	
17	17	Operations	Male		29 Engineer	9/21/2019 8:03:06 AM	
18	18	Sales	Other		28 Developer	11/8/2022 8:03:06 AM	
19	19	Customer Support	Other		56 Developer	10/1/2015 8:03:06 AM	
20	20	Finance	Male		23 Technician	5/8/2015 8:03:06 AM	
21	21	Operations	Female		33 Manager	12/19/2022 8:03:06 AM	
22	22	Sales	Male		59 Manager	5/25/2017 8:03:06 AM	
23	23	Finance	Male		26 Specialist	7/23/2016 8:03:06 AM	
24	24	Sales	Male		58 Consultant	1/21/2018 8:03:06 AM	
25	25	HR	Female		38 Analyst	6/23/2018 8:03:06 AM	
26	26	Customer Support	Male		38 Specialist	5/3/2022 8:03:06 AM	
27	27	Finance	Male		45 Engineer	7/12/2021 8:03:06 AM	

Query Settings

PROPERTIES

Name HR_Analytics

APPLIED STEPS

Source

Promoted Headers

Changed Type

Removed Duplicates

- Create Calculated Columns:

- Tenure Category: Based on Years_at_company (e.g., 0-2 = New, 3-5 = Mid, 6+ = Veteran)

File Home Help Table tools Column tools

Name Tenure Category Format Text Summarization Don't summarize Data category Uncategorized

Structure Formatting Properties Sort Data groups Relationships New column Calculations

1 Tenure Category = SWITCH(True(), HR_Analytics[Years_At_Company] <= 2, "New", HR_Analytics[Years_At_Company] <= 5, "Mid", "Veteran")

	Projects_Handled	Overtime_Hours	Sick_Days	Remote_Work_Frequency	Team_Size	Training_Hours	Promotions	Employee_Satisfaction_Score	Resigned	Tenure Category
39	4	20	2		0	9	57	0	1.54	False Veteran
34	28	6	1		25	15	74	0	1.84	False Mid
51	7	25	13		25	11	22	0	3.07	False Mid
59	5	20	1		50	14	56	0	4.68	False New
42	3	3	3		75	15	49	0	2.9	False New
50	7	19	0		50	15	90	0	1.57	False New
50	29	20	9		100	11	75	0	2.03	False Veteran
31	5	7	9		50	16	57	0	4.99	False New
59	37	10	1		25	15	39	0	3.21	False Veteran
47	41	4	3		100	16	26	0	4.57	False Mid
34	29	29	11		25	11	96	0	4.2	False Mid
48	40	8	9		75	6	79	0	1.52	False New
59	2	3	5		50	16	93	0	2.03	False Veteran
43	29	5	1		50	7	7	0	3.6	False Veteran
50	26	18	10		100	9	84	0	3.72	False New
52	27	11	7		100	11	91	0	2.64	False Mid
60	8	23	11		25	9	86	0	1.88	False Veteran
45	4	11	5		100	1	6	0	4.2	False Veteran
34	21	14	10		75	14	39	0	4.01	False New
51	40	11	9		0	15	78	0	1.72	False Mid
35	47	17	7		100	7	65	0	2.5	False Veteran
58	39	27	1		25	6	45	0	1.12	False Mid
58	36	14	7		50	15	84	0	3.32	False Veteran
47	23	28	10		50	4	57	0	2.66	False Mid
38	46	11	9		50	7	30	0	3.44	False Veteran
39	37	4	14		50	1	15	0	5	False Mid
55	47	25	11		75	4	51	0	4.83	False Veteran

Table: HR_Analytics (100,000 rows) Column: Tenure Category (3 distinct values)

Data

Search

HR_Analytics

Age

Department

Education_Level

Employee_ID

Employee_Satisfaction_Score

Gender

Hire_Date

Job_Title

Monthly_Salary

Overtime_Hours

Performance_Score

Projects_Handled

Promotions

Remote_Work_Frequency

Resigned

Team_Size

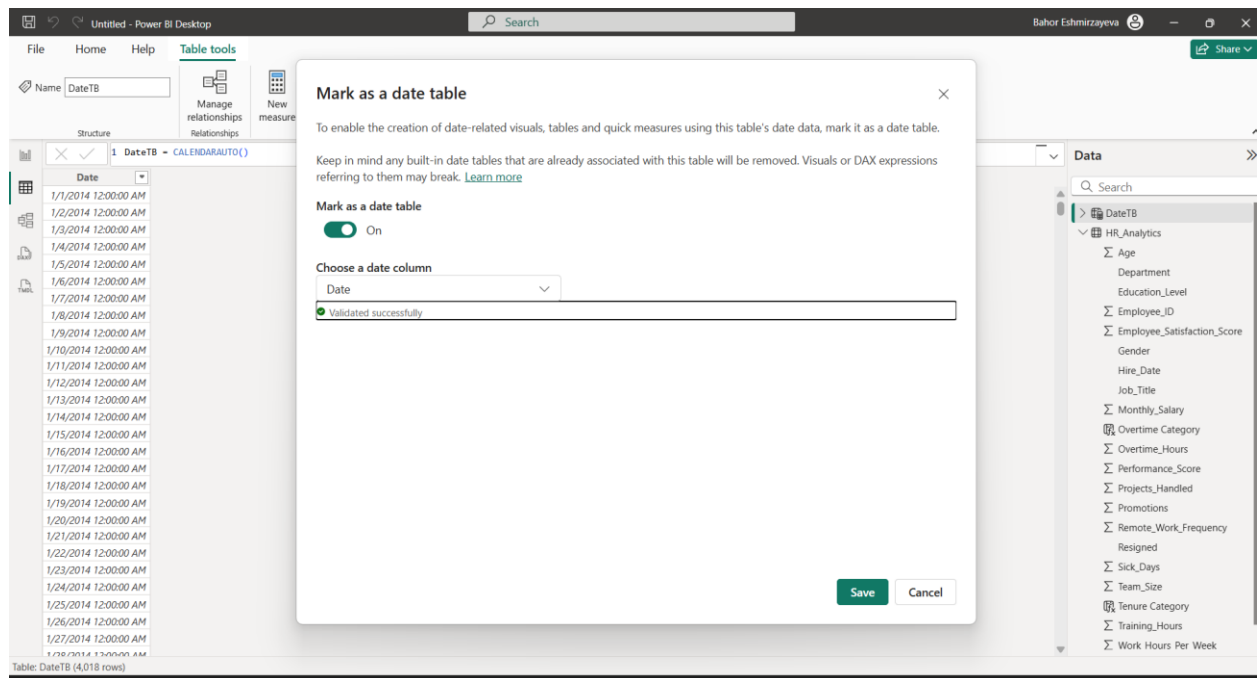
Tenure Category

Training_Hours

Work_Hours_Per_Week

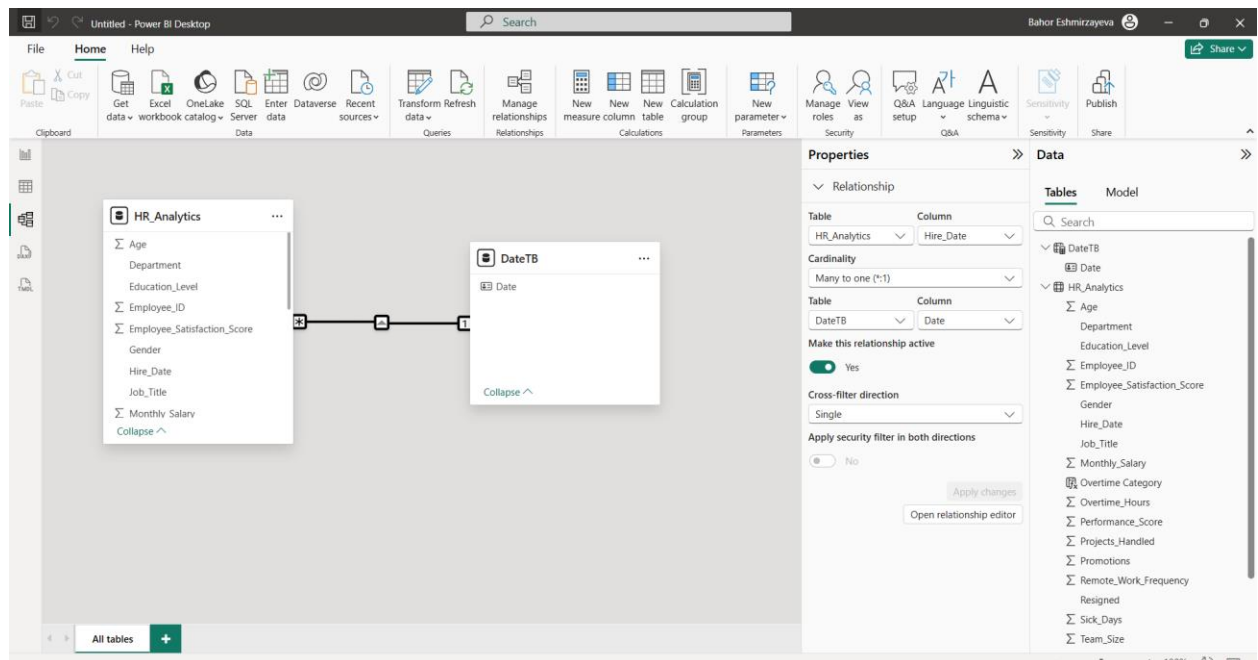
Years_At_Company

- Overtime Category: IF Overtime_Hours > 10 THEN "High", ELSE "Low"



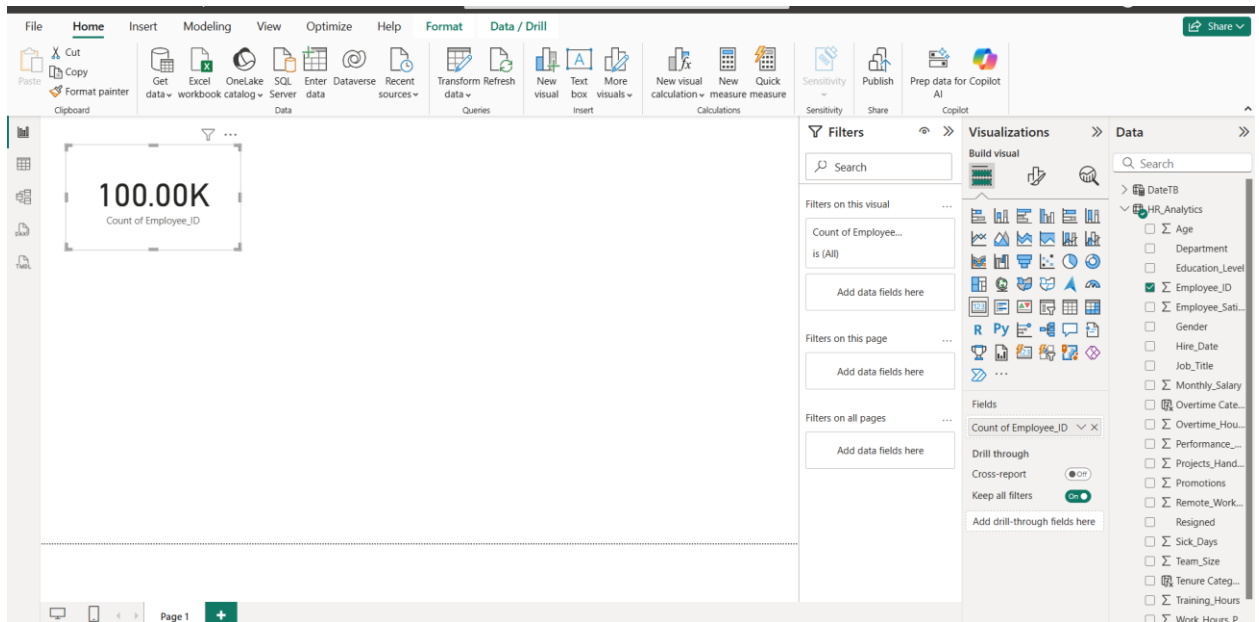
4. Data Model – Relationships

- Connect Date Table to Hire_Date (One-to-Many)
- Create simple star schema, ensure no circular dependencies
- Optionally: Create Lookup Tables for Department, Education_level, etc.

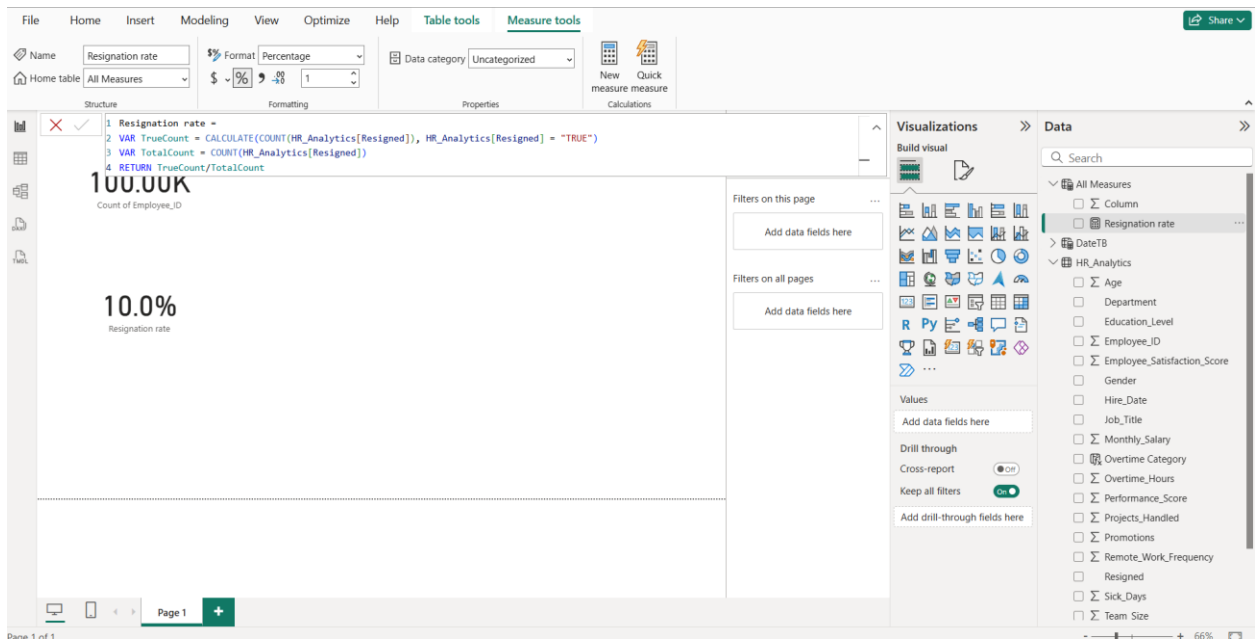


5. DAX Measures (Key KPIs)

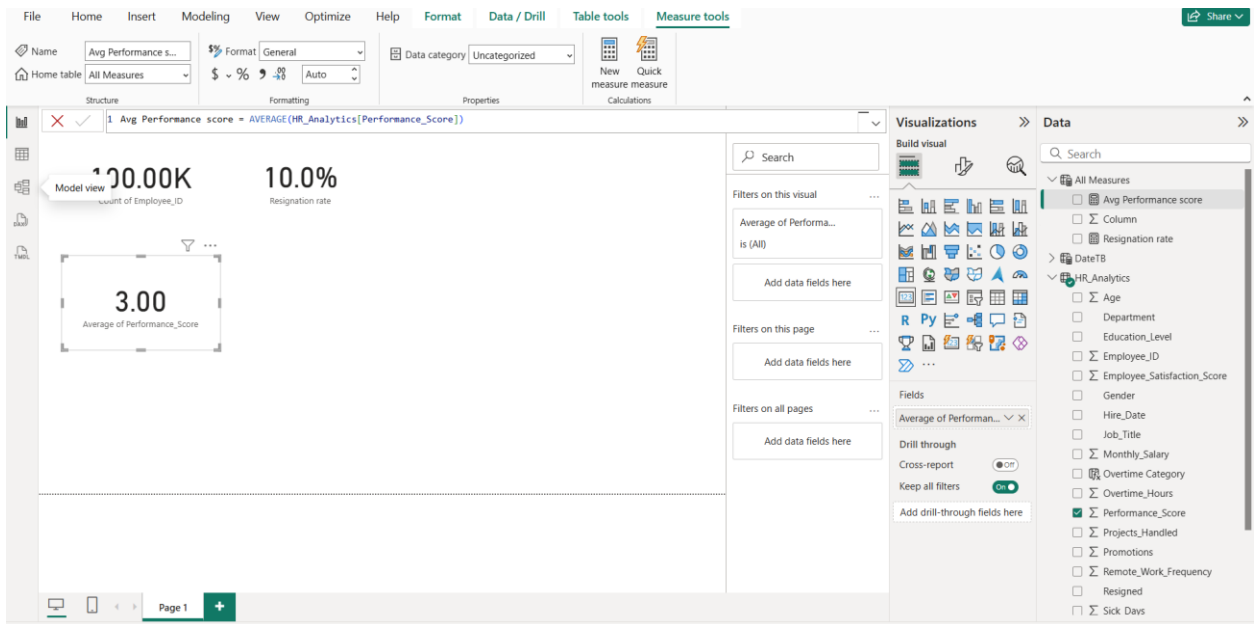
- Employee Count



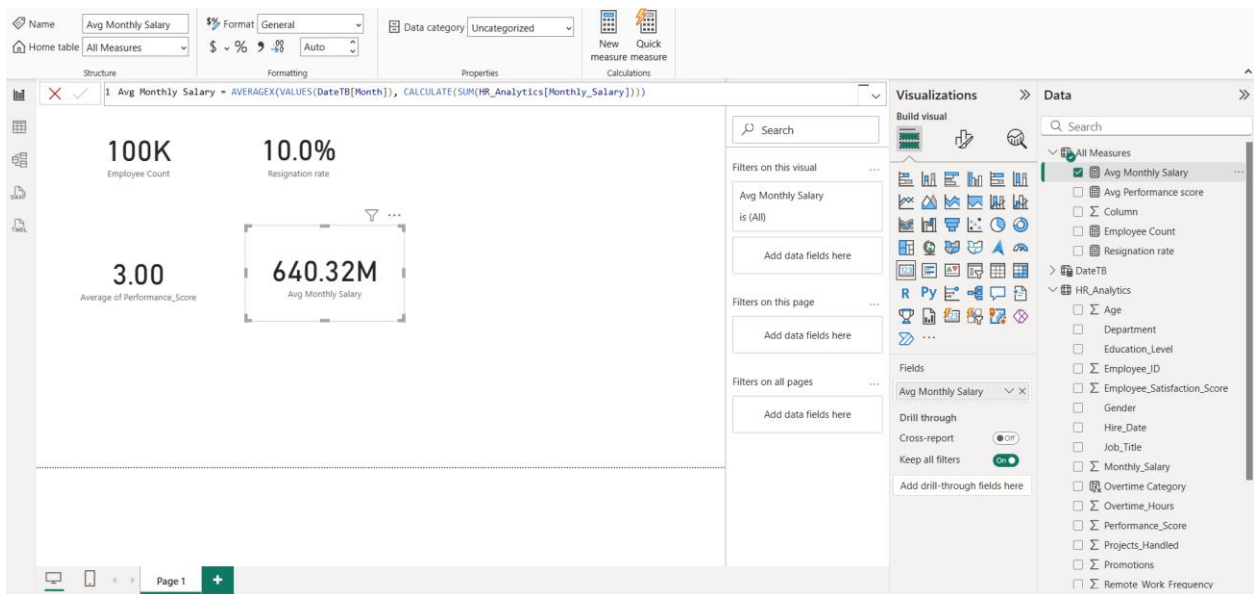
- Resignation Rate



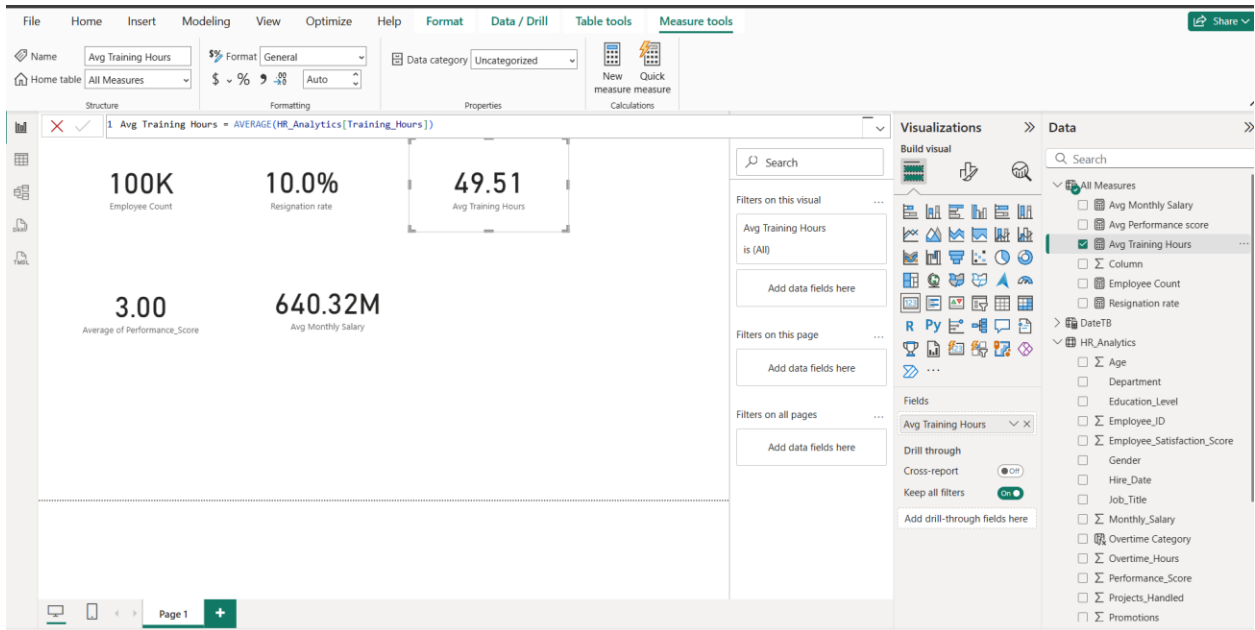
- Avg. Performance Score



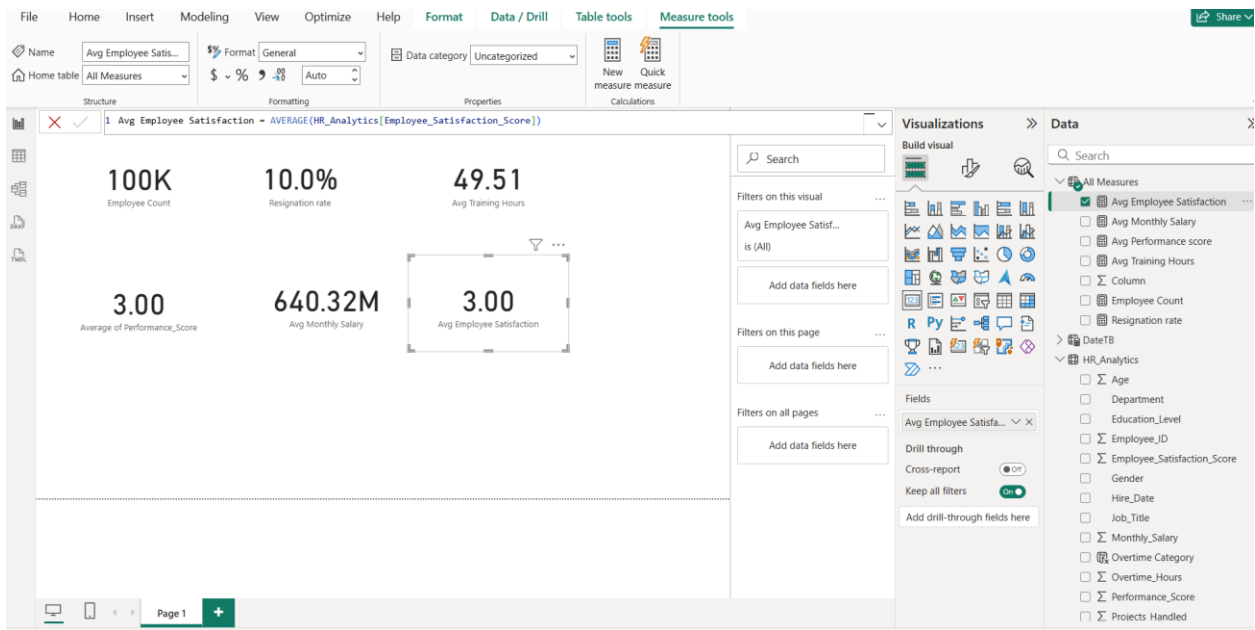
- Avg. Monthly Salary



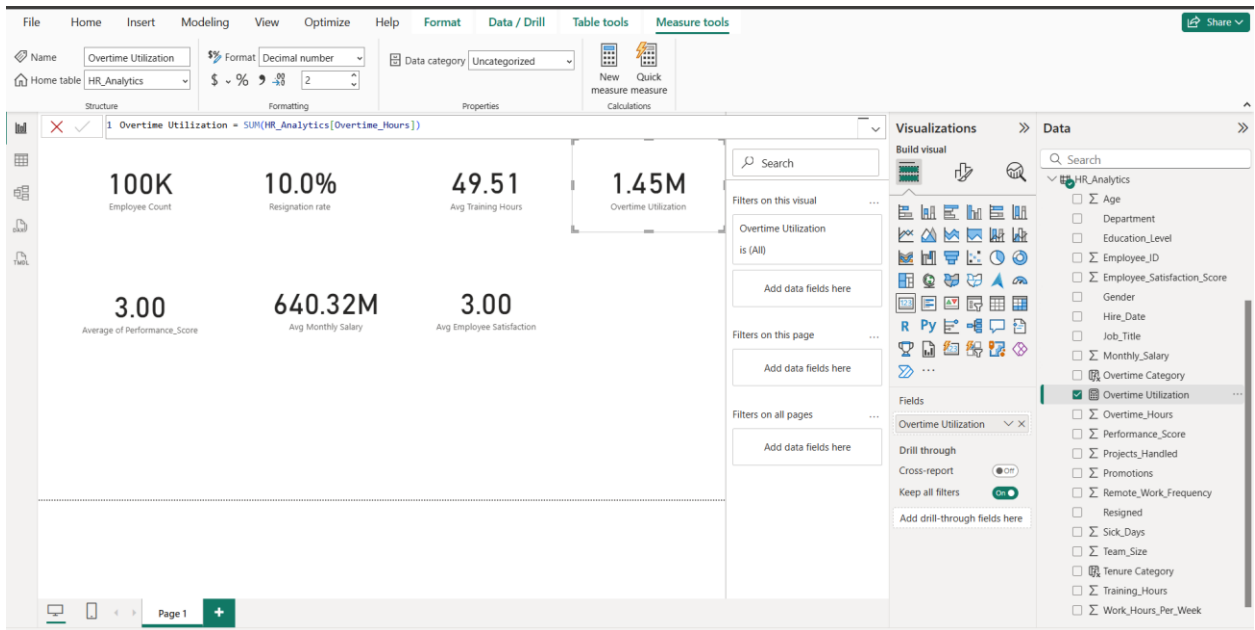
- Avg. Training Hours



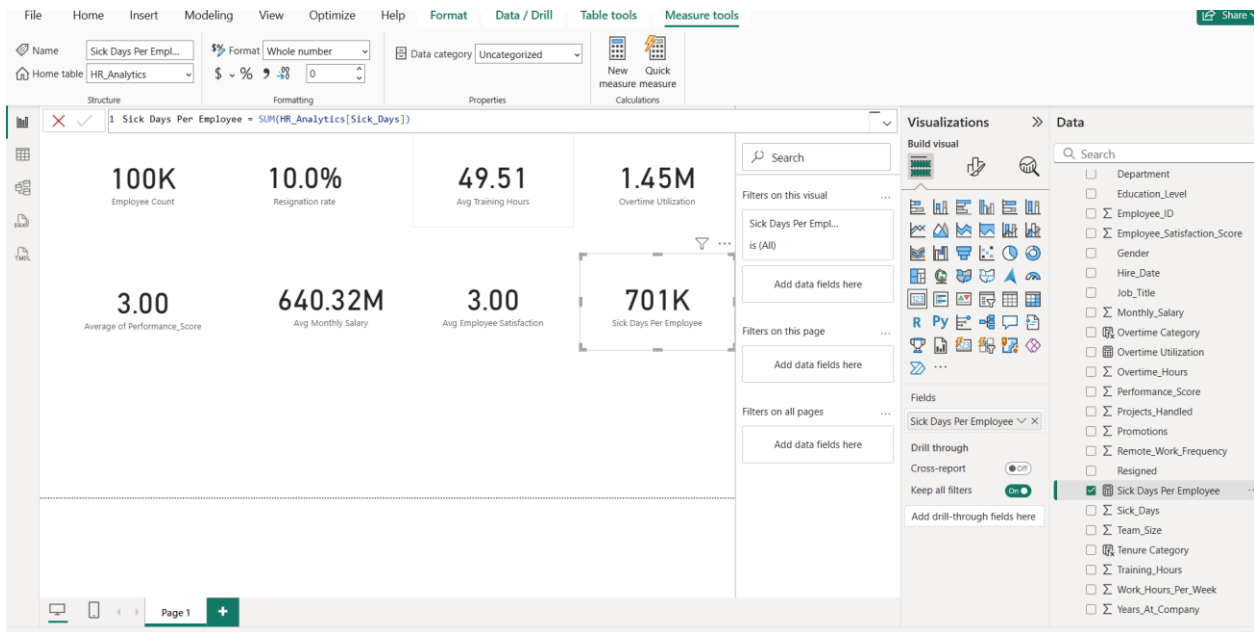
- Avg. Employee Satisfaction



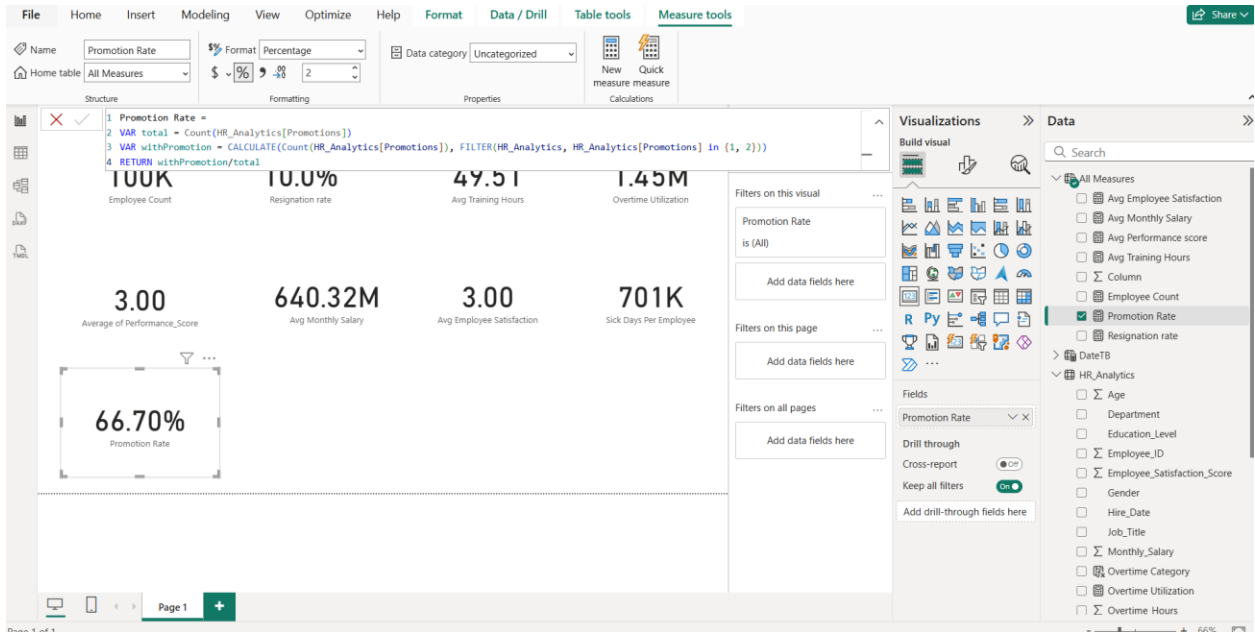
- Overtime Utilization



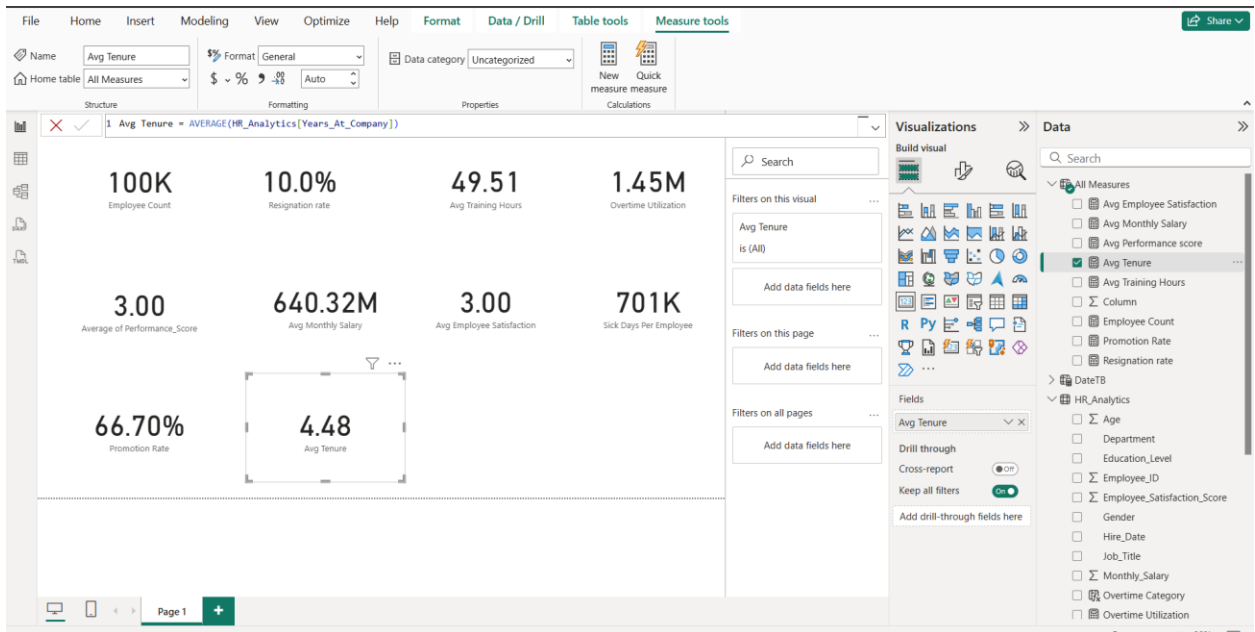
- Sick Days per Employee



- Promotion Rate



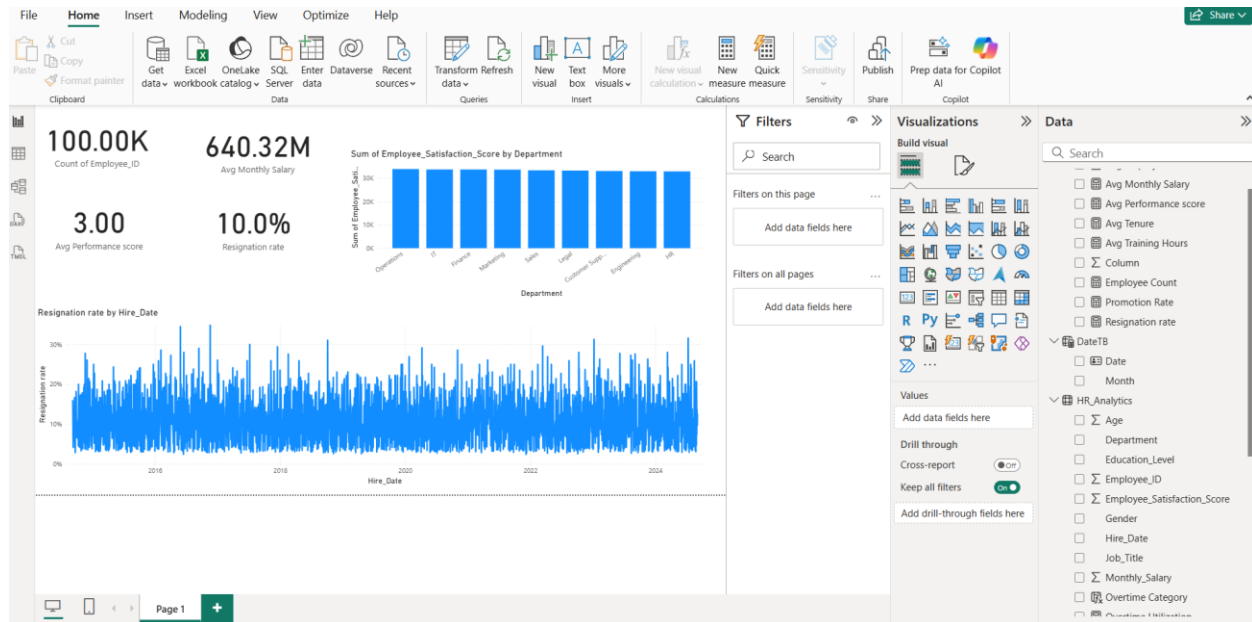
- Avg. Tenure (Years at Company)



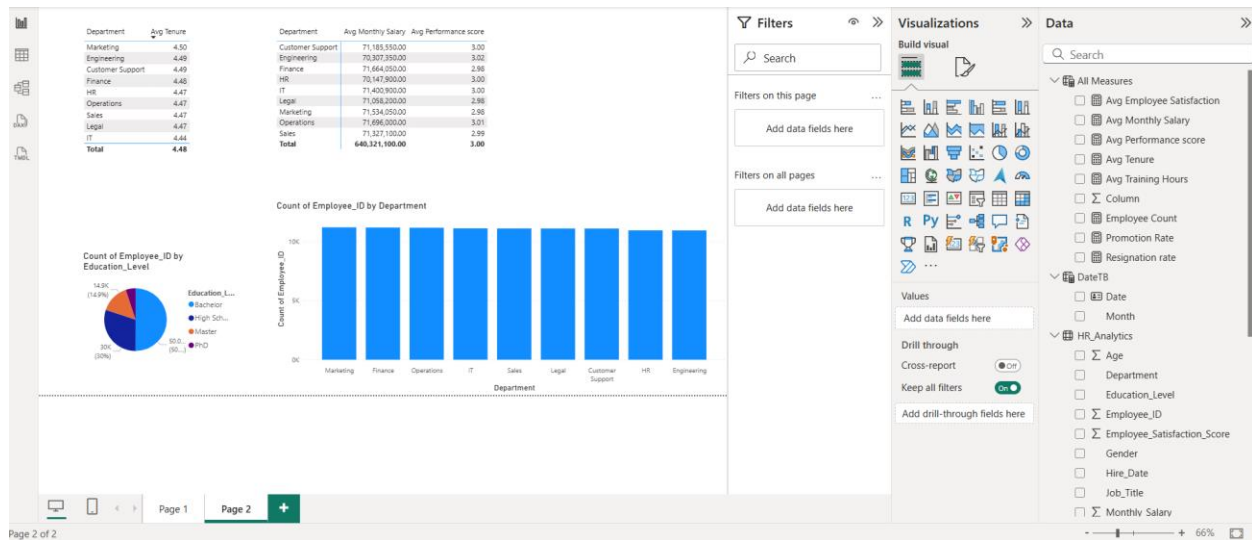
6. Report Pages and Visuals

- Page 1: Executive Summary
 - Card: Total Employees
 - Card: Resignation Rate
 - Card: Avg. Performance Score

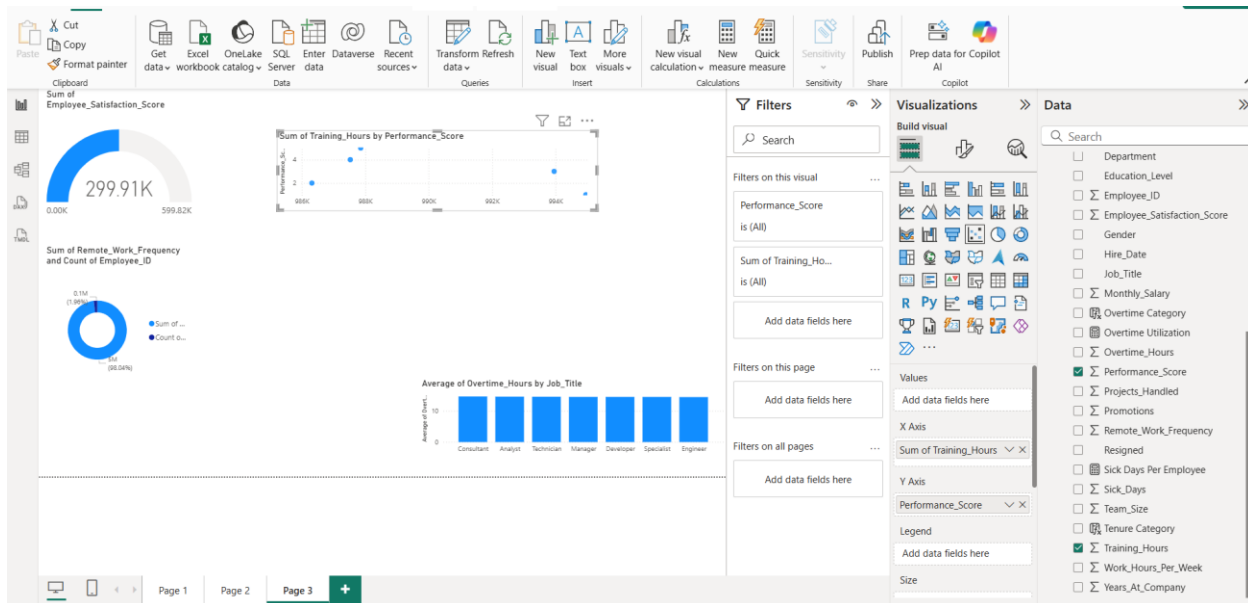
- Card: Avg. Monthly Salary
- Line Chart: Resignation Rate over Time
- Clustered Column Chart: Department-wise Satisfaction



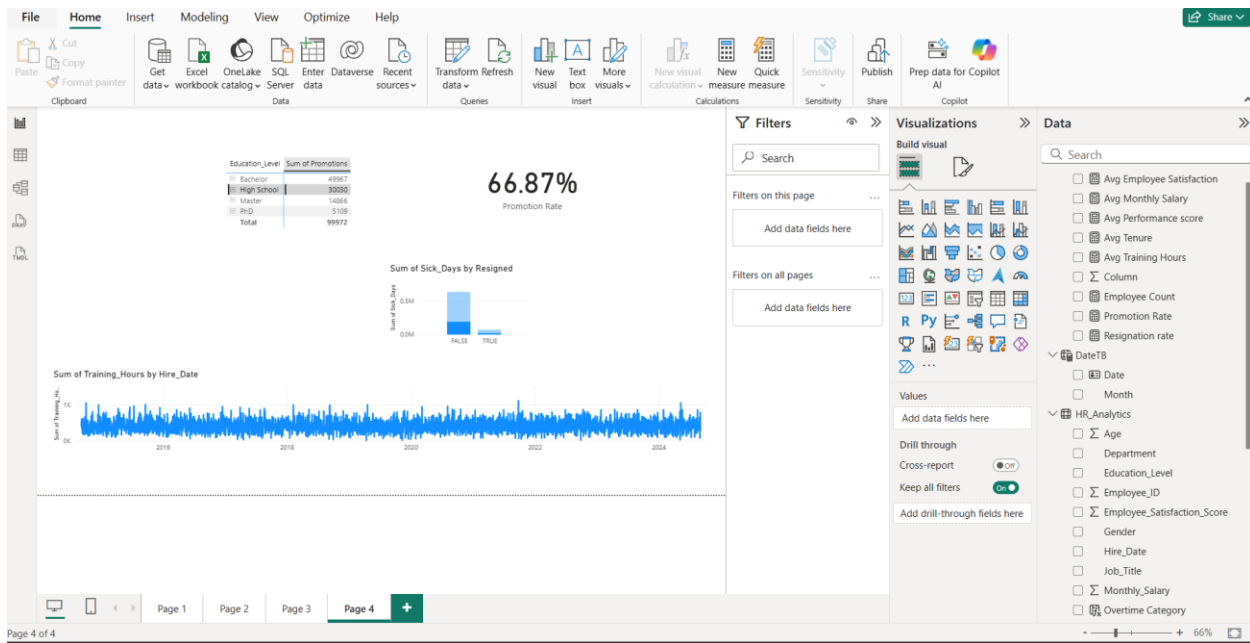
- Page 2: Department Insights
 - Bar Chart: Employees per Department
 - Heatmap: Avg. Salary vs Performance per Department
 - Pie Chart: Education Level Distribution
 - KPI: Avg. Tenure by Department



- Page 3: Employee Engagement
 - Gauge: Employee Satisfaction
 - Donut Chart: Remote Work Frequency
 - Clustered Column Chart: Avg. Overtime by Job Title
 - Scatter Plot: Training Hours vs Performance Score



- Page 4: Retention & Promotions
 - Matrix: Promotions by Department & Education Level
 - Bar Chart: Sick Days vs Resigned Employees
 - Line Chart: Training Trend over Years
 - Card: Promotion Rate



- Page 5: Filters and Slicers
 - Slicers: Department, Job Title, Education Level, Remote Work Frequency, Tenure Category, Resigned (Yes/No)

