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Task No : 03



DATA ANALYST INTERNSHIP



Task 4: Dashboard Design

- **Objective:** Design an interactive dashboard for business stakeholders.
- **Tools:** Power BI / Tableau
- **Deliverables:** Interactive Dashboard + PPT summary
- **Hints/Mini Guide:**
 - a. Choose right KPIs (Sales, Profit, Growth)
 - b. Use slicers/filters for interactivity
 - c. Include time-series analysis
 - d. Add cards for totals/summary
 - e. Apply consistent color theme
 - f. Create navigation menu (if possible)

Dataset: Any Sales_Financial dataset (from kaggle)

Outcome: Learn how to create dashboards that inform business decisions..

Apple Financial Dashboard Creation Report

Overview: This project involves designing a financial dashboard in Tableau using Apple's financial data from 2009 to 2024. The primary goal is to visualize key financial metrics to help business stakeholders easily understand Apple's performance over the years.

Tools Used :

- Tableau Public
- Microsoft Excel (for viewing and saving dataset)
- CSV to Excel conversion for compatibility with Tableau

Step-by-Step Process:

1. Dataset Preparation: -

- Used the dataset: Apple 2009-2024.csv
- Cleaned the data by removing symbols like \$, % and commas
- Calculated new fields : -
Profit Margin % = Net Income / Revenue
Revenue YoY Growth % = (Current - Previous) / Previous
- Saved the cleaned file as:
Cleaned_Apple_Financials_2009_2024.csv

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	year	EBITDA (M)	Revenue (M)	Gross Profit (M)	Operating Income (M)	Net Income (M)	EPS	Shares Outstanding	Year Close	Total Assets	Cash on Hand	Long Term Debt	Total Liabilities	Gross Margin	PE ratio	Employees
2	2024	\$134,661	\$391,035	\$180,683	\$123,216	\$93,736	\$6.08	15,408	243.04	\$364,980	\$65,171	\$85,750	\$308,030	46.21%	39.97	1,64,000
3	2023	\$125,820	\$383,285	\$169,148	\$114,301	\$96,995	\$6.13	15,813	191.5919	\$352,583	\$61,555	\$95,281	\$290,437	45.03%	29.84	1,61,000
4	2022	\$130,541	\$394,328	\$170,782	\$119,437	\$99,803	\$6.11	16,326	128.5816	\$352,755	\$48,304	\$98,959	\$302,083	43.06%	21.83	1,64,000
5	2021	\$120,233	\$365,817	\$152,836	\$108,949	\$94,680	\$5.61	16,865	174.7132	\$351,002	\$62,639	\$109,106	\$287,912	43.02%	28.93	1,54,000
6	2020	\$77,344	\$274,515	\$104,956	\$66,288	\$57,411	\$3.28	17,528	129.7556	\$323,888	\$90,943	\$98,667	\$258,549	38.78%	35.14	1,47,000
7	2019	\$76,477	\$260,174	\$98,392	\$63,930	\$55,256	\$2.97	18,596	71.1734	\$338,516	\$100,557	\$91,807	\$248,028	37.95%	22.49	1,37,000
8	2018	\$81,801	\$265,595	\$101,839	\$70,898	\$59,531	\$2.98	20,000	37.6645	\$365,725	\$66,301	\$93,735	\$258,578	38.21%	12.39	1,32,000
9	2017	\$71,501	\$229,234	\$88,186	\$61,344	\$48,351	\$2.30	21,007	39.8109	\$375,319	\$74,181	\$97,207	\$241,272	38.43%	16.37	1,23,000
10	2016	\$70,529	\$215,639	\$84,263	\$60,024	\$45,687	\$2.08	22,001	26.8131	\$321,686	\$67,155	\$75,427	\$193,437	38.52%	12.84	1,16,000
11	2015	\$82,487	\$233,715	\$93,626	\$71,230	\$53,394	\$2.31	23,172	23.8379	\$290,345	\$41,601	\$53,329	\$170,990	40.13%	10.12	1,10,000
12	2014	\$60,449	\$182,795	\$70,537	\$52,503	\$39,510	\$1.61	24,491	24.5797	\$231,839	\$25,077	\$28,987	\$120,292	39.26%	13.25	97,000
13	2013	\$55,756	\$170,910	\$64,304	\$48,999	\$37,037	\$1.42	26,087	17.4799	\$207,000	\$40,546	\$16,960	\$83,451	37.41%	12.14	84,400
14	2012	\$58,518	\$156,508	\$68,662	\$55,241	\$41,733	\$1.58	26,470	16.176	\$176,064	\$29,129	\$0	\$57,854	41.91%	10.27	76,100
15	2011	\$35,604	\$108,249	\$43,818	\$33,790	\$25,922	\$0.99	26,226	12.2002	\$116,371	\$25,952	\$0	\$39,756	42.41%	9.73	63,300
16	2010	\$19,412	\$65,225	\$25,684	\$18,385	\$14,013	\$0.54	25,892	9.7168	\$75,183	\$25,620	\$0	\$27,392	38.76%	15.19	49,400
17	2009	\$12,474	\$42,905	\$17,222	\$11,740	\$8,235	\$0.32	25,396	6.3481	\$47,501	\$23,464	\$0	\$15,861	40.95%	20.52	36,800

Data before cleaning

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	year	EBITDA (M)	Revenue (M)	Gross Profit (M)	Operating Income (M)	Net Income (M)	EPS	Shares Outstanding	Year Close	Total Assets	Cash on Hand	Long Term Debt	Total Liabilities	Gross Margin	PE ratio	Employee	Profit Margin	Revenue YoY Growth	
2	2024	134661	391035	180683	123216	93736	6.08	15408	243.04	364980	65171	85750	308030	46.21	39.97	164000	23.97126		
3	2023	125820	383285	169148	114301	96995	6.13	15813	191.5919	352583	61555	95281	290437	45.03	29.84	161000	25.30623	-1.98192	
4	2022	130541	394328	170782	119437	99803	6.11	16326	128.5816	352755	48304	98959	302083	43.06	21.83	164000	25.30964	2.881146	
5	2021	120233	365817	152836	108949	94680	5.61	16865	174.7132	351002	62639	109106	287912	43.02	28.93	154000	25.88179	-7.23028	
6	2020	77344	274515	104956	66288	57411	3.28	17528	129.7556	323888	90943	98667	258549	38.78	35.14	147000	20.91361	-24.9584	
7	2019	76477	260174	98392	63930	55256	2.97	18596	71.1734	338516	100557	91807	248028	37.95	22.49	137000	21.23809	-5.22412	
8	2018	81801	265595	101839	70898	59531	2.98	20000	37.6645	365725	66301	93735	258578	38.21	12.39	132000	22.4142	2.083606	
9	2017	71501	229234	88186	61344	48351	2.3	21007	39.8109	375319	74181	97207	241272	38.43	16.37	123000	21.09242	-13.6904	
10	2016	70529	215639	84263	60024	45687	2.08	22001	26.8131	321686	67155	75427	193437	38.52	12.84	116000	21.1868	-5.93062	
11	2015	82487	233715	93626	71230	53394	2.31	23172	23.8379	290345	41601	53329	170990	40.13	10.12	110000	22.84577	8.382528	
12	2014	60449	182795	70537	52503	39510	1.61	24491	24.5797	231839	25077	28987	120292	39.26	13.25	97000	21.61438	-21.7872	
13	2013	55756	170910	64304	48999	37037	1.42	26087	17.4799	207000	40546	16960	83451	37.41	12.14	84400	21.67047	-6.50182	
14	2012	58518	156508	68662	55241	41733	1.58	26470	16.176	176064	29129	0	57854	41.91	10.27	76100	26.66509	-8.42666	
15	2011	35604	108249	43818	33790	25922	0.99	26226	12.2002	116371	25952	0	39756	42.41	9.73	63300	23.94664	-30.8348	
16	2010	19412	65225	25684	18385	14013	0.54	25892	9.7168	75183	25620	0	27392	38.76	15.19	49400	21.48409	-39.7454	
17	2009	12474	42905	17222	11740	8235	0.32	25396	6.3481	47501	23464	0	15861	40.95	20.52	36800	19.19357	-34.22	

Data after cleaning

2. Load Data into Tableau : -

- Opened Tableau and chose "Text File" to load the CSV.
- Dragged the data sheet into the canvas and went to Sheet 1

3. Created KPI Cards:

Created 4 separate sheets:

- Total Revenue (SUM of Revenue millions)
- Net Income (SUM of Net Income millions)
- Profit Margin % (AVG of Profit Margin%)
- YoY Growth % (SUM of Revenue YoY Growth %)

4. Created Time-Series Trend Charts:

- Line Chart: Revenue vs Year
- Line Chart: Net Income vs Year
- Combined the two using Dual Axis and synchronized axes

5. Created YoY Growth Chart:

- Line Chart: Year vs Revenue YoY Growth%

6. Profit Breakdown Chart:

- Bar chart comparing EBITDA, Operating Income, and Net Income

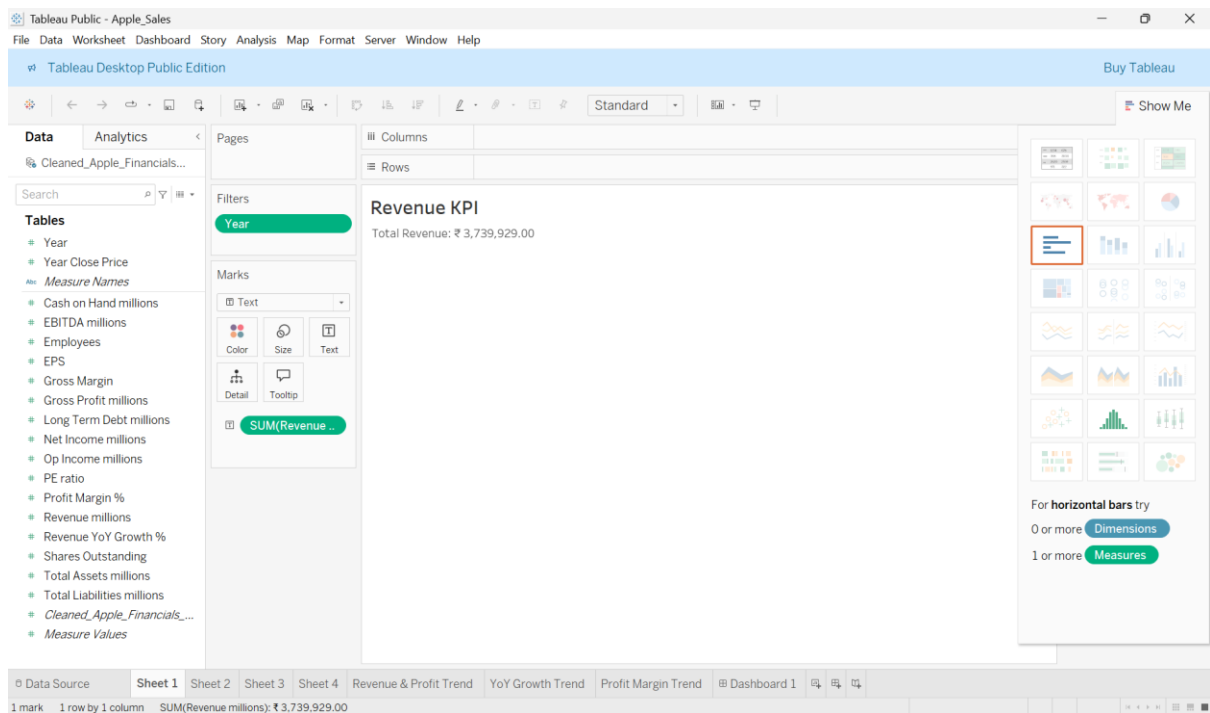
7. Designed the Dashboard :

- Clicked New Dashboard
- Dragged KPI sheets into a horizontal container at the top.
- Added line charts and bar charts below in a neat layout.
- Adjusted spacing, colors, fonts, and titles.

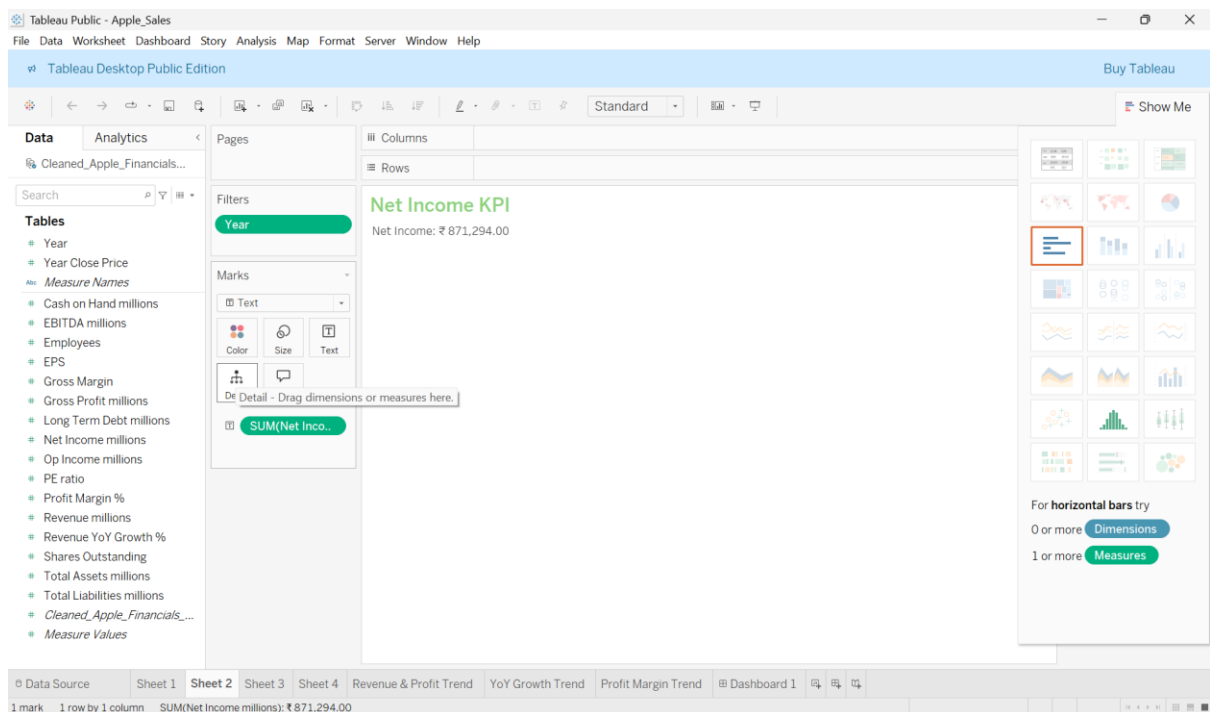
8. Final Adjustments :

- Formatted numbers using Format > Numbers > Currency (Custom)
- Optional filter setup was skipped due to absence of filter card

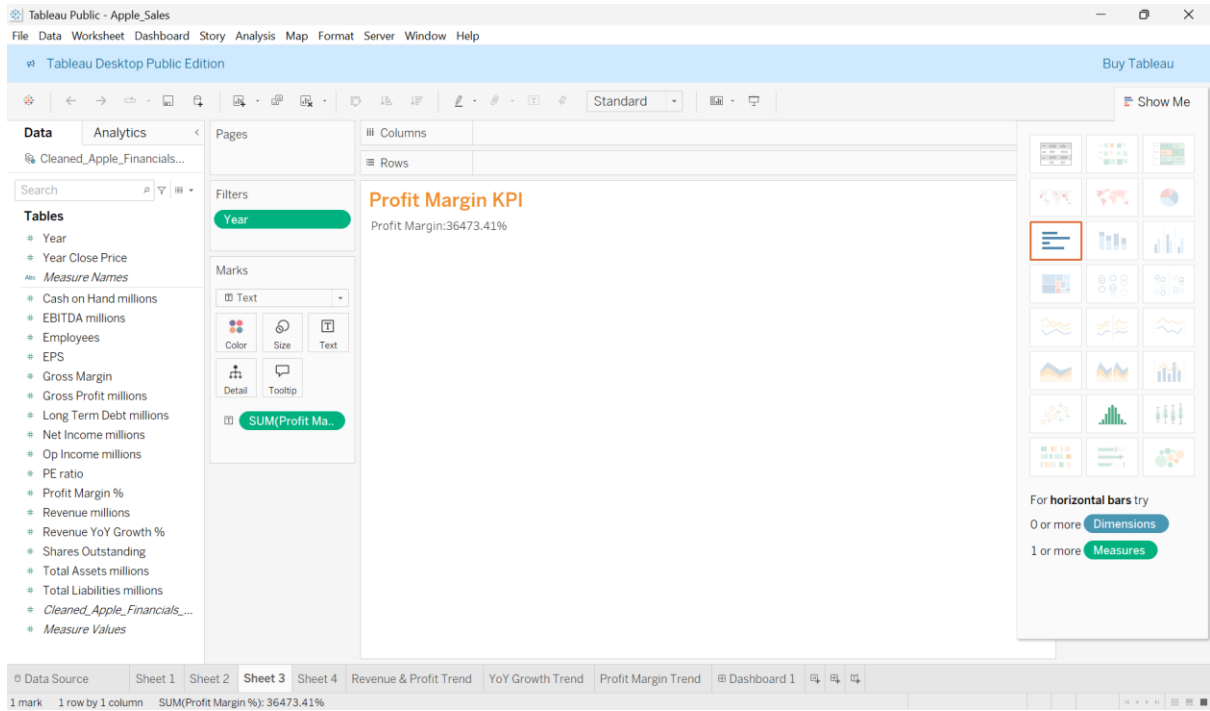
Screenshots of KPI Sheets :



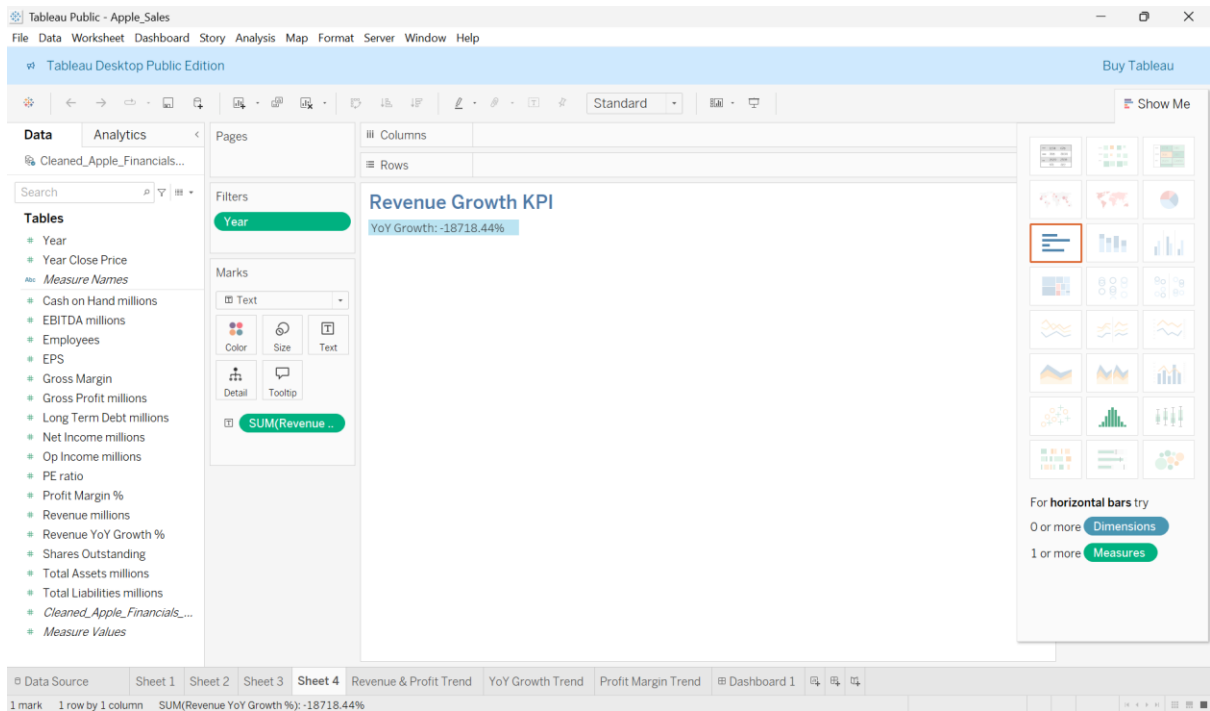
Revenue KPI



Net Income KPI

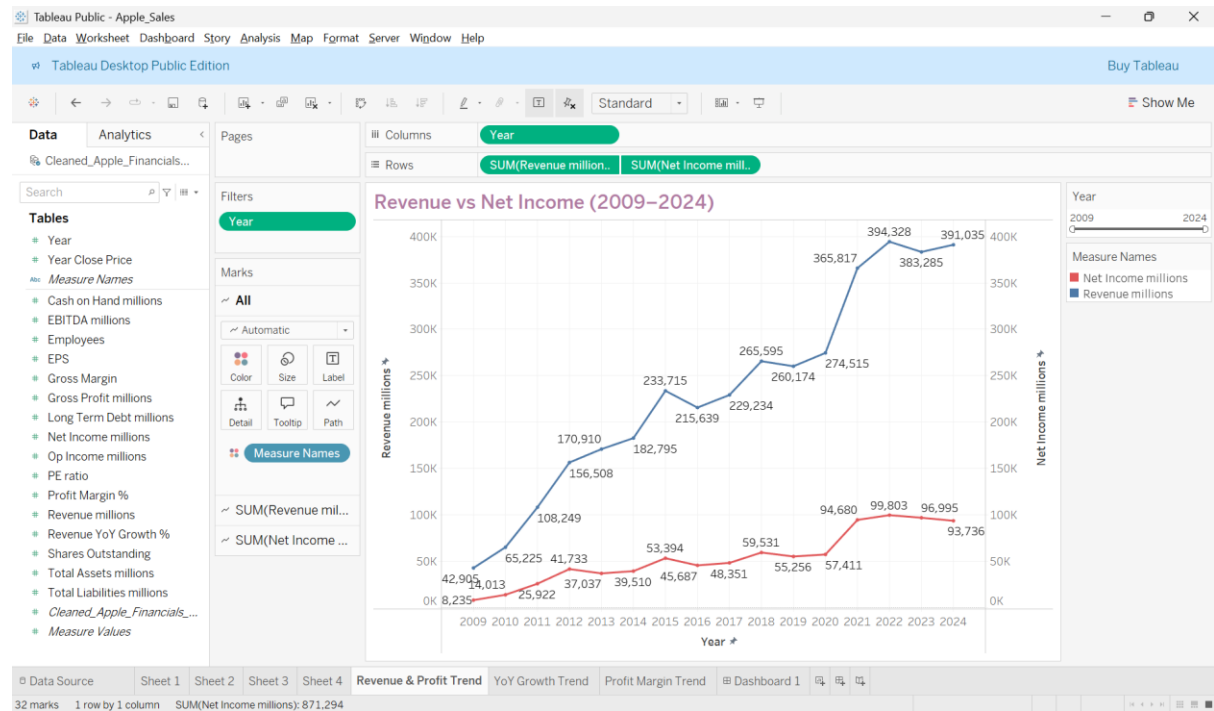


Profit Margin KPI

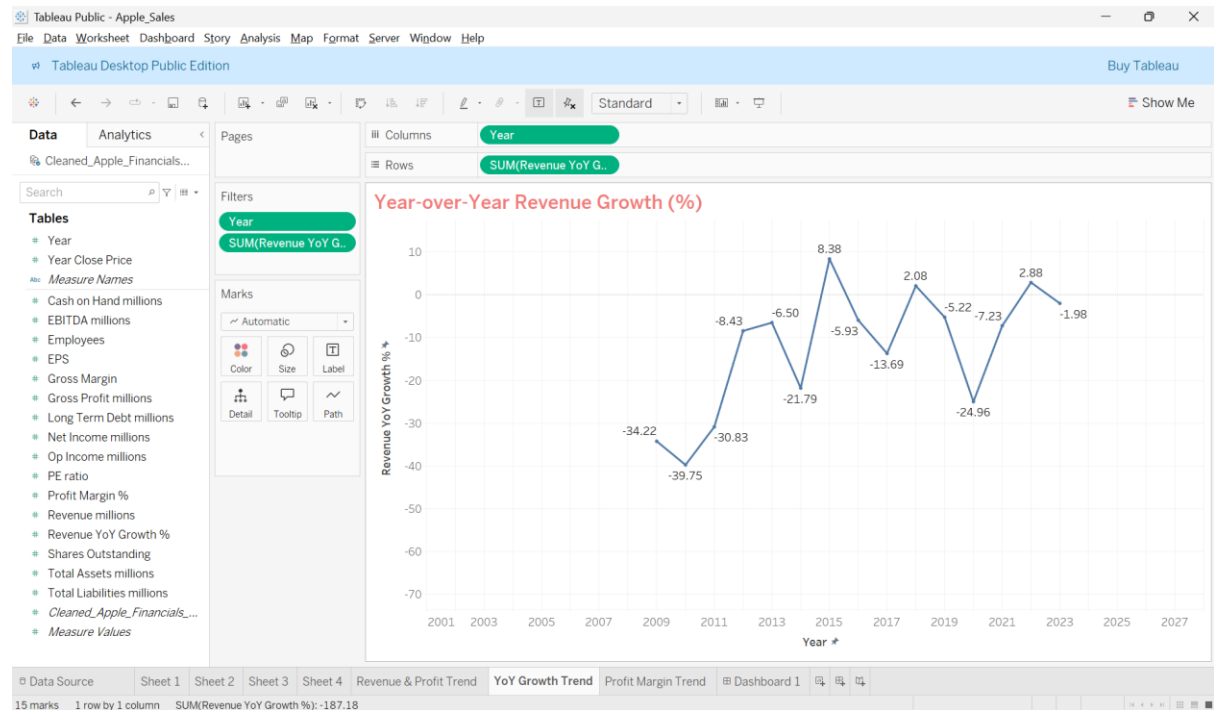


Revenue Growth KPI

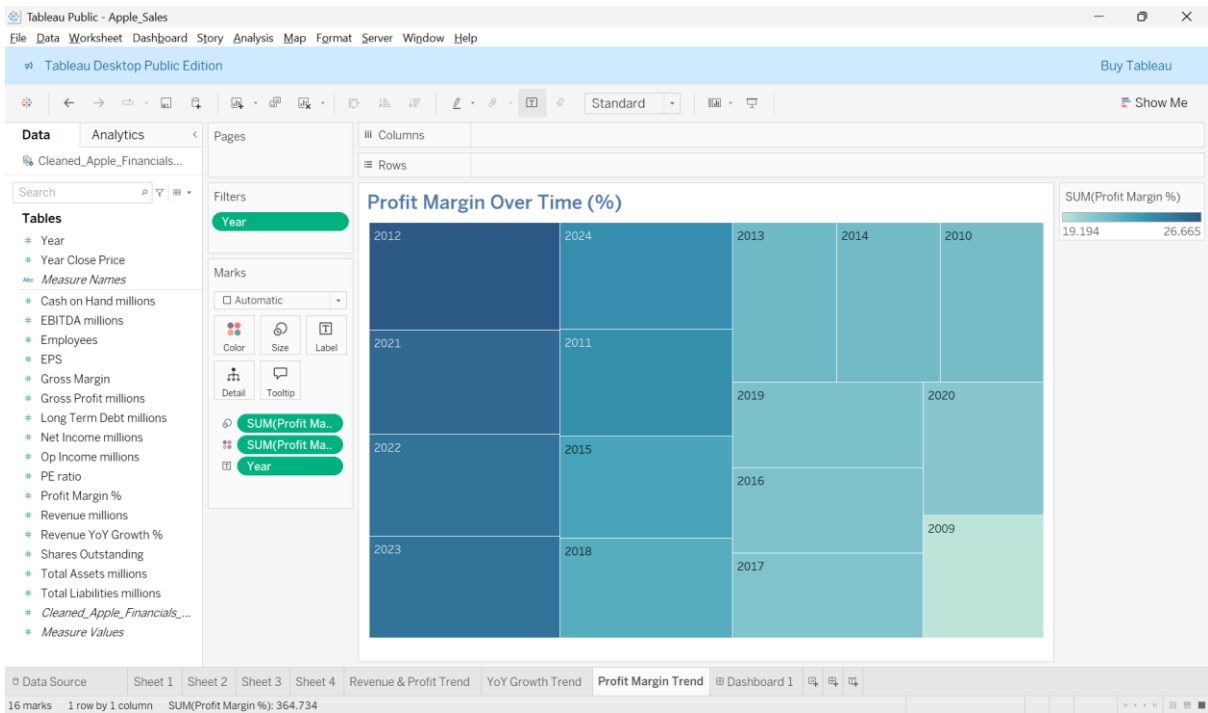
Revenue vs Net Income :



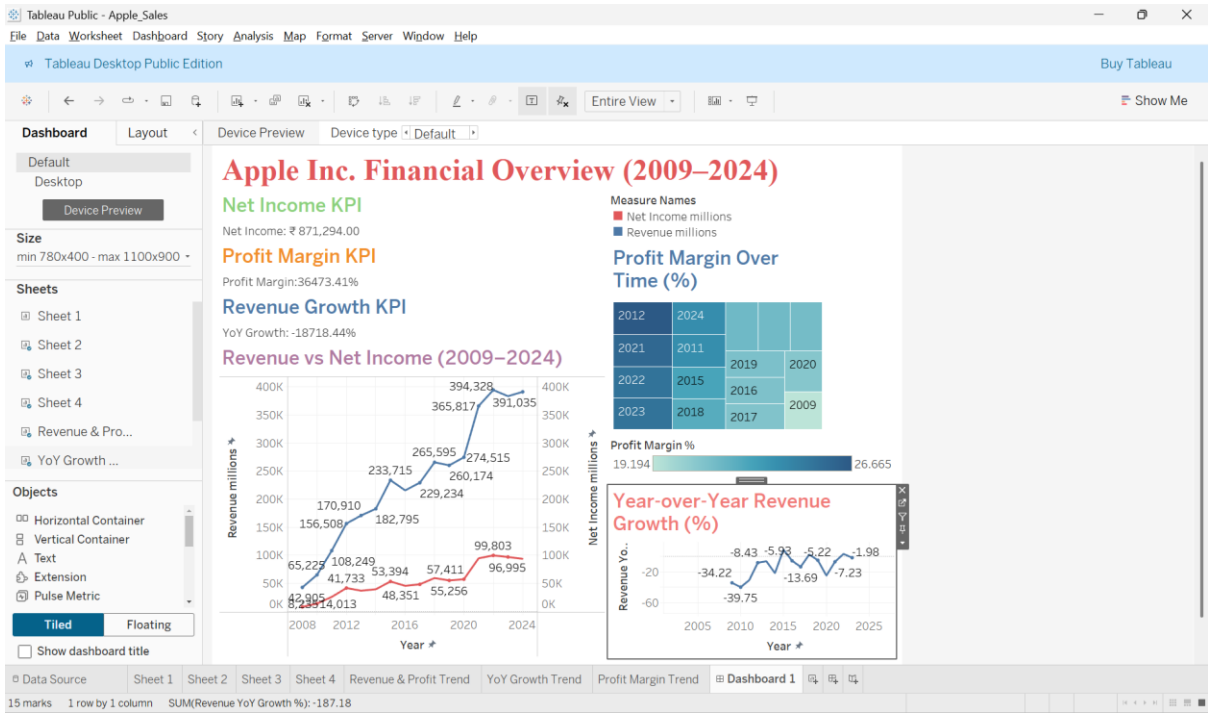
Year over Year Revenue Growth% :



Profit Margin Over Time :



Final Dashboard :





Apple Inc. Financial Overview (2009–2024)

An Interactive Tableau Dashboard for Business Stakeholders

Presented by: Suhitha

Objective

Project Purpose

The purpose of this project is to create an interactive financial dashboard using Tableau that provides Apple's stakeholders with clear insights into the company's financial performance.

Dashboard Capabilities

The dashboard enables users to monitor key performance indicators (KPIs), analyze revenue and profit trends, and support strategic decision-making through visual storytelling.



Key Performance Indicators (KPIs)



Total Revenue



Net Income



Profit Margin Percentage



Year-over-Year (YoY) Revenue Growth



Earnings Per Share (EPS)

These KPIs collectively highlight Apple's scale, profitability, efficiency, and shareholder value over the years.

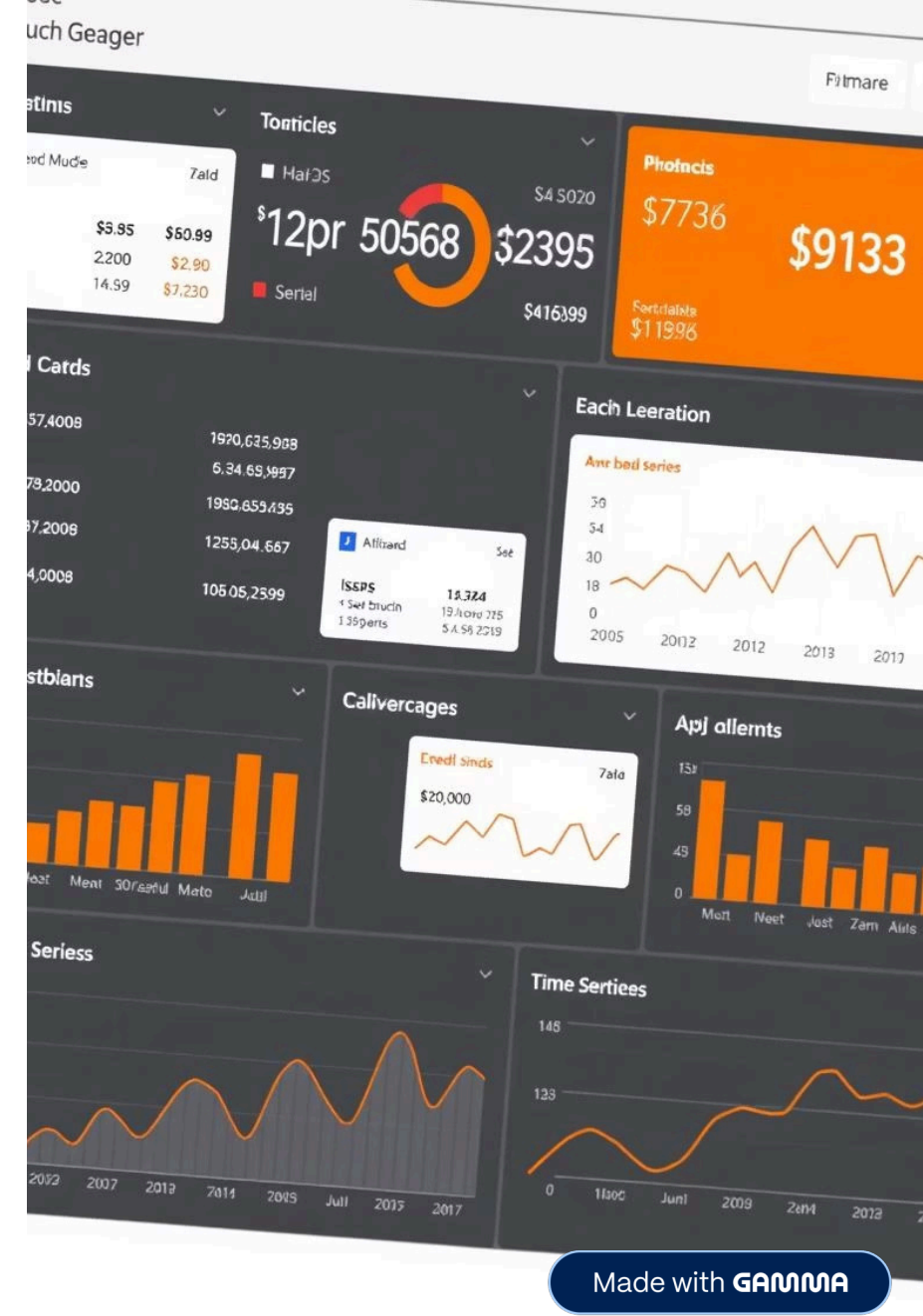
Dashboard Overview

Intuitive Layout

The Tableau dashboard was designed with an intuitive layout featuring KPI summary cards, time-series trend charts, and calculated financial metrics.

Data Interaction

It allows users to view and interact with data from 2009 to 2024, offering valuable insights at a glance and enabling drill-down analysis for strategic planning.



Revenue and Net Income Trends



Consistent Growth (2009-2022)

1

The dashboard's line charts clearly show Apple's consistent growth in revenue and net income from 2009 to 2022, with a peak during the pandemic years.

Recent Dip (2023-2024)

2

A slight dip in 2023 and 2024 suggests market saturation or economic impact.

Innovation Needed

3

This trend highlights Apple's resilience and the need to continue innovating to sustain growth.

Profitability Insights

Robust Profit Margins

Apple's profit margins have remained robust over the 15-year period, typically staying within the 20–25% range.

Strong Efficiency

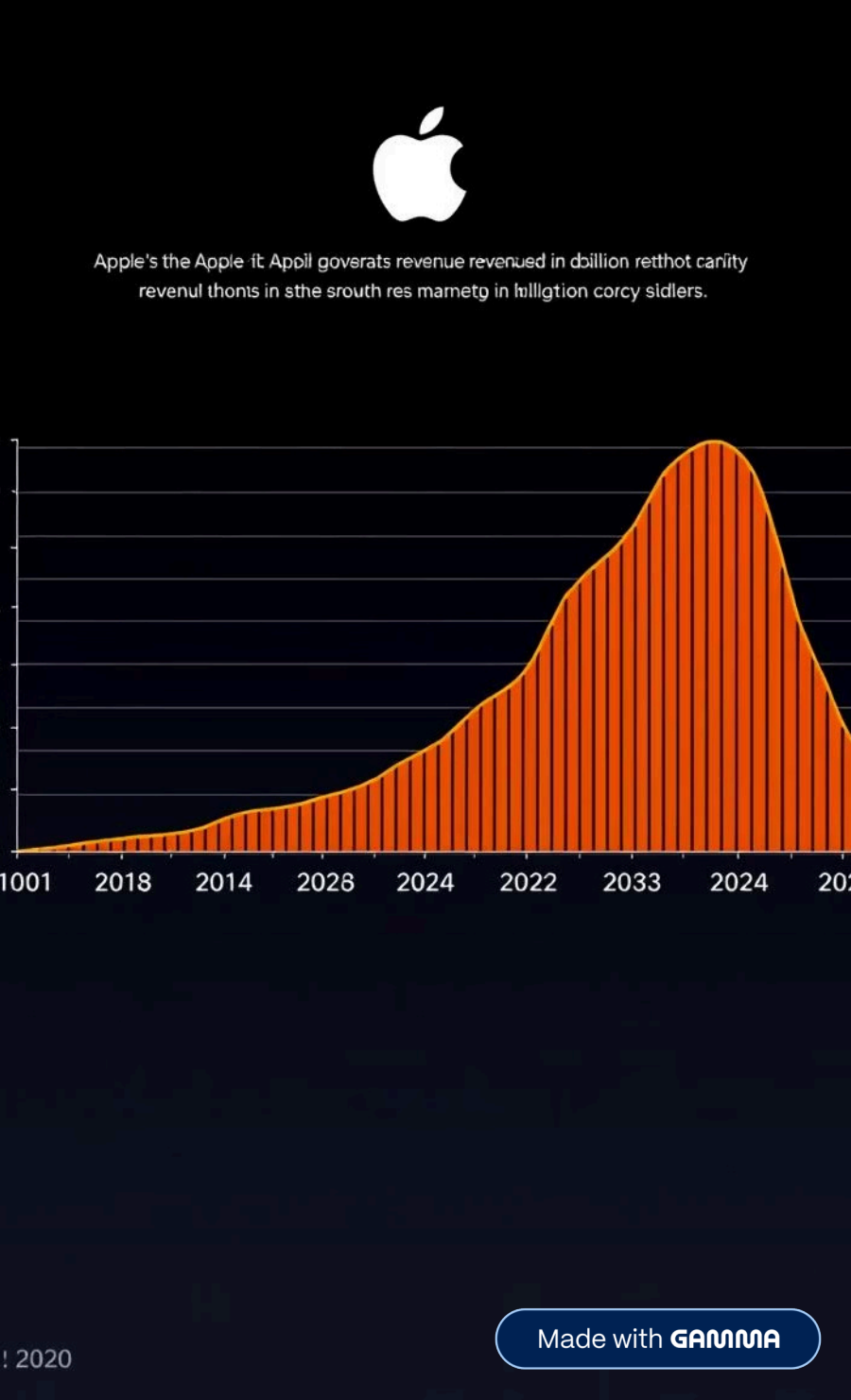
This indicates strong cost control and operational efficiency.

Sales to Profit Conversion

The close alignment between revenue and net income curves further reinforces the company's ability to convert sales into real profit.

Year-over-Year Growth Analysis

- 1 Substantial Spike (2021)**
By analyzing the YoY revenue growth, we observed a substantial spike in 2021.
- 2 Decline (2023-2024)**
Followed by a decline in 2023 and 2024.
- 3 External Factors**
This fluctuation may reflect external factors like global economic shifts or internal product cycle impacts.
- 4 Forecasting Importance**
Understanding these trends is essential for forecasting and strategic investment planning.



EPS and Shareholder Value

General Increase

Earnings Per Share (EPS) has generally increased year-over-year, showing Apple's ability to generate higher value per share.

Maturing Business

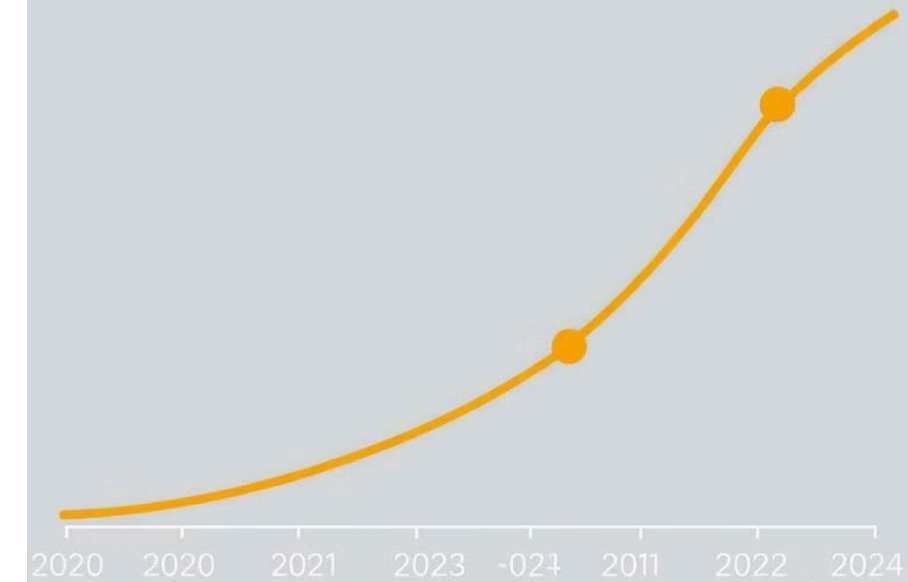
The steady growth until 2022 followed by a plateau highlights a maturing business with stable but slowing expansion.

Investment Attractiveness

This metric is critical for evaluating shareholder return and investment attractiveness.

Apple: Earning Per Share

Supports a title you are interested in that is different from the one you are currently looking at, please click on the link.



Summary of Findings

Positive

Overall Outlook

The overall outlook remains positive.

Powerful

Dashboard Tool

The dashboard serves as a powerful tool for monitoring and strategic decision-making.

The dashboard reveals Apple's strong financial foundation, highlighted by sustained revenue and profit growth, high profitability margins, and consistent shareholder value creation. While recent years show signs of slowdown, the overall outlook remains positive. The dashboard serves as a powerful tool for monitoring and strategic decision-making.

