

Capstone Project Report – Mavin Electronics Sales Dashboard

Introduction

This project was completed as part of the **Power BI Project Club Bootcamp (Cohort 10)**, instructed by **Tina Okonkwo**. The goal was to analyze the **Mavin Electronics dataset** and build an executive-style dashboard to answer key business questions on sales, trends, products, customers, and stores.

The process I followed included:

1. **Data Cleaning** – fixing missing values, removing duplicates, and standardizing dates and currencies.
2. **Data Modeling** – building a star schema that connects Sales, Customers, Products, Stores, Date table.
3. **DAX Measures** – creating calculations for Total Revenue, Profit, Quantity Sold, Customers, plus advanced KPIs like YTD, MoM%, YoY%, Profit Margin, and New vs Returning Customers, Average Delivery Time, colours for formatting visuals etc
4. **Visualization** – designing a 4-page executive dashboard in Power BI with KPIs, line and bar charts, heatmaps, and customer/product insights.

View Dashboard 👉

<https://app.powerbi.com/view?r=eyJrIjoibW1ZDYtODhiYS00NjU3LWEwYzgtNDljODY2Y2VIYjY5IiwidCI6IjRlMzE3MmU3LTU3OWQtNDhkYS1iNDQ2LTk1NTdiOTcxOWE5MSIsImMiOjZ9>

1. Overall Performance

- **2019** was a strong year:
 - Revenue: **\$91M** (+42.8% vs 2018)
 - Profit: **\$53M** (+43.3%)
 - Quantity Sold: **342K** (+53.8%)
 - Unique Customers: **6K** (+36.3%)
- **2020** showed a sharp decline:
 - Revenue dropped to **\$46M** (−49.1% vs 2019)
 - Profit fell to **\$27M** (−49.1%)
 - Quantity Sold: **172K** (−49.6%)
 - Unique Customers: **4K** (−40.5%)

👉 2020 performance was significantly weaker compared to 2019.

2. Trends Over Time (Monthly)

- In **2020**, revenue peaked in **February (\$11M)**, dropped sharply in **March–April**, and recovered slightly in **December (\$3.3M)**.
- Profit followed the same trend.
- Sales appear to **consistently dip mid-year** and **recover at year-end**, showing signs of seasonality.

3. Year-over-Year Comparison

- **2017**: Revenue grew by +6.8%, Profit +5.6%, Customers +13.5%
- **2018**: Revenue and Profit both grew by +72%+, Customers +63.9%
- **2019**: Continued growth with Revenue +42.8%, Profit +43.3%, Customers +36.3%

- **2020:** Performance reversed, with Revenue and Profit both down –49%, Customers –40%

Growth momentum from 2017–2019 was strong, but 2020 marked a sharp downturn.

4. Product Performance

- **Top Categories** (2019): Computers, Home Appliances, Cell Phones, Cameras & Camcorders, TV & Radio.
- **Top Product:** *Adventure Works 52" LCF HDTV X590 White.*
- **Bottom Product:** *SV USB Data Cable E600 Black.*

5. Customer Insights

- **By age group (2019):**
 - 65+ → \$33M
 - 51–65 → \$21M
 - 36–50 → \$20M
 - 26–35 → \$14M
 - 18–25 → \$3M
- **By gender:**
 - Male → 50.46% of revenue
 - Female → 49.54%
- **By channel/region:**
 - Online sales contributed most (\$19.5M).
 - Top states included Iowa, Alaska, New Mexico, Nebraska.

- **Customer retention:**
 - Returning customers dominate (12K+ in 2019 vs only 3K new).
 - 2020 saw fewer new customers (~1K).

Business is heavily dependent on **older customers and returning buyers**, with fewer new customers joining in 2020.

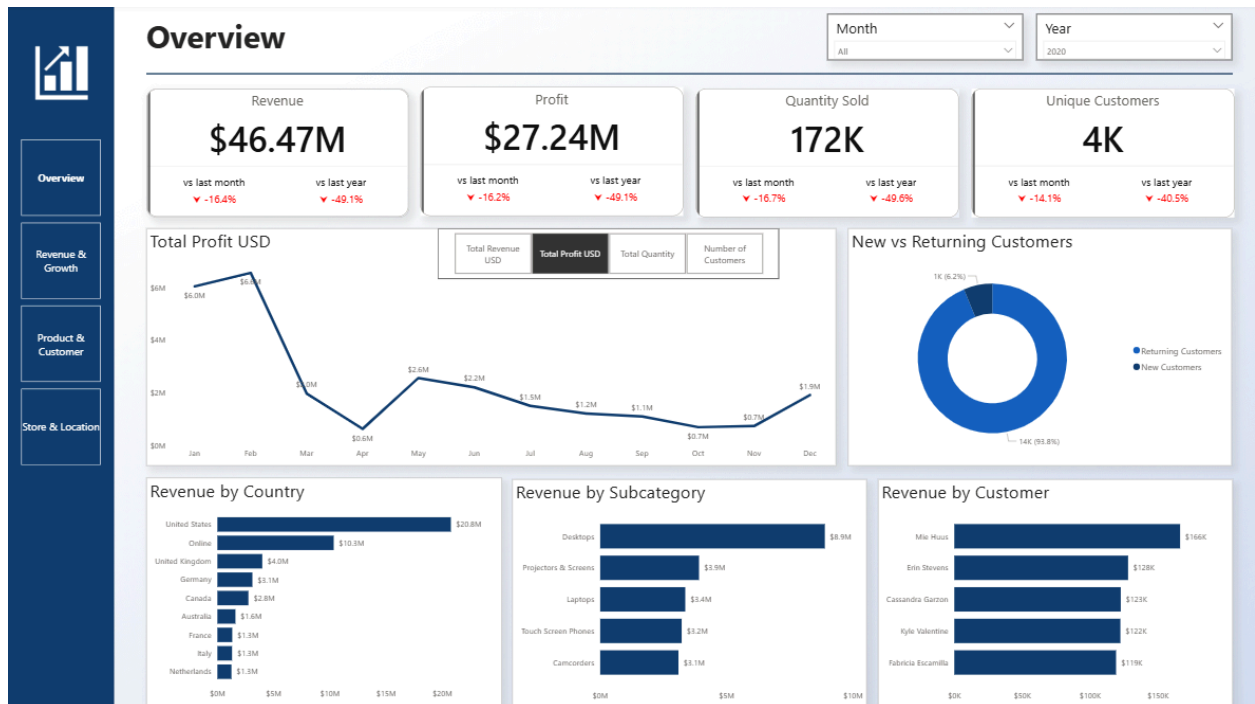
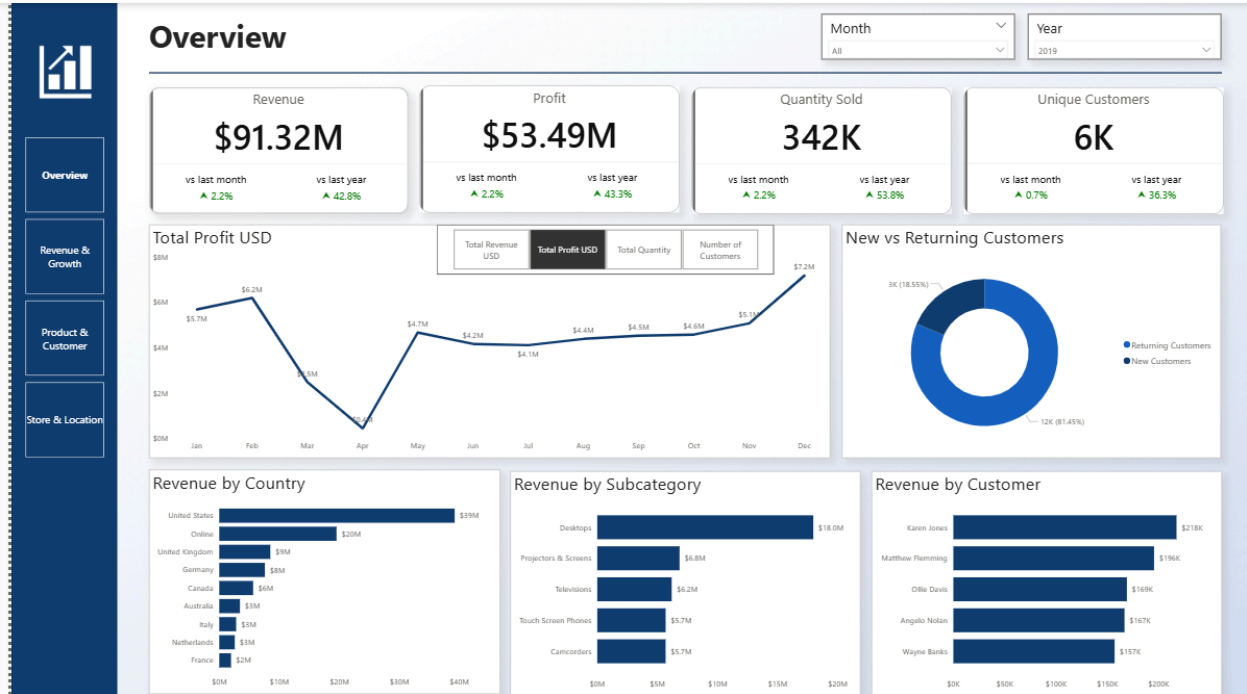
6. Store & Regional Performance

- Strongest countries: **United States, Online, UK, Germany**.
- Weakest: **Netherlands, Italy**.
- **Newer stores (after 2015)** outperform older stores in revenue.
- **Extra-large stores** generate the most sales, followed by large, then online, while small/medium stores lag behind.

7. Recommendations

Based on the insights, I recommend:

1. **Customer Acquisition** – Invest in campaigns to attract more **new customers**, especially younger age groups.
2. **Seasonal Strategy** – Plan promotions ahead of **March–April slump** and **boost December campaigns** to maximize peaks.
3. **Product Portfolio** – Focus on high-performing categories (Computers, Home Appliances) and review underperforming items (like cables/accessories).
4. **Regional Growth** – Strengthen presence in weaker regions (Netherlands, Italy) and continue leveraging online sales.
5. **Store Optimization** – Use the performance of extra-large and new stores as a model for expansion.





Overview

Revenue & Growth

Product & Customer

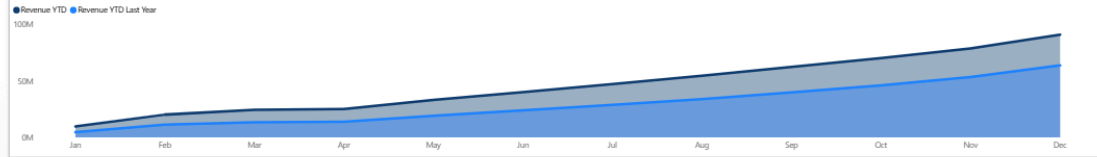
Store & Location

Revenue and Growth Trends

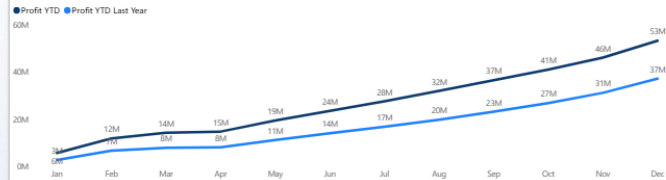
Month
All

Year
2019

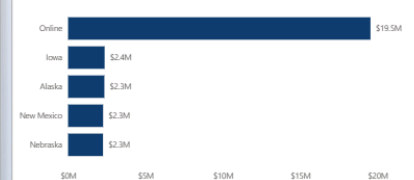
Year-to-Date Revenue Trend vs Prior Year



Year-to-Date Profit vs Prior Year



Revenue by State



Monthly Revenue

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2019	\$9,704,497.85	\$10,514,312.85	\$4,229,625.45	\$749,463.55	\$7,972,232.35	\$7,024,307.00	\$7,043,573.10	\$7,503,923.85	\$7,739,353.65	\$7,875,844.10	\$8,578,299.40	\$12,386,479.25	\$91,321,912.40
2018	\$4,585,376.75	\$6,721,713.50	\$2,174,755.75	\$353,137.70	\$5,366,327.80	\$4,869,876.65	\$4,820,747.30	\$5,134,228.65	\$5,908,825.70	\$6,208,650.15	\$7,390,133.15	\$10,411,030.20	\$63,944,803.30
2020	\$10,344,755.60	\$11,136,897.85	\$3,374,953.30	\$1,088,210.50	\$4,390,133.15	\$3,819,416.15	\$2,564,025.90	\$2,083,235.40	\$1,902,157.60	\$1,228,237.95	\$1,283,505.10	\$3,257,632.20	\$46,473,160.70
2017	\$3,350,574.00	\$3,752,630.95	\$1,656,242.95	\$292,900.35	\$3,081,294.80	\$3,158,656.50	\$2,558,933.60	\$2,966,895.25	\$3,431,875.50	\$3,142,607.15	\$3,278,614.95	\$6,435,885.35	\$37,107,111.35
2016	\$3,249,593.90	\$4,455,491.50	\$1,692,036.80	\$552,958.15	\$2,979,930.90	\$2,592,926.40	\$2,274,799.15	\$2,737,563.45	\$2,837,105.60	\$3,119,797.85	\$3,249,746.80	\$4,992,017.30	\$34,733,967.80
2021	\$2,565,107.90	\$2,631,334.50											\$5,196,442.40
Total	\$33,799,906.00	\$39,212,381.15	\$13,127,614.25	\$3,036,670.25	\$23,789,919.00	\$21,465,182.70	\$19,262,079.05	\$20,425,846.60	\$21,819,318.05	\$21,575,137.20	\$23,780,299.40	\$37,483,044.30	\$278,777,397.95



Store and Regional Performance

Month

All

Year

2019

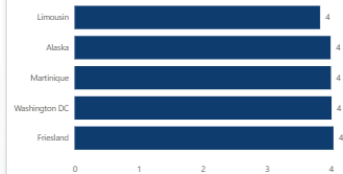
Overview

Revenue & Growth

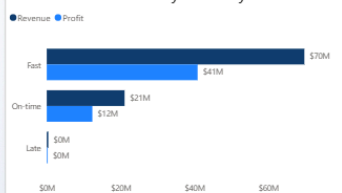
Product & Customer

Store & Location

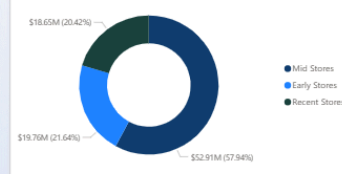
Fastest Delivery States



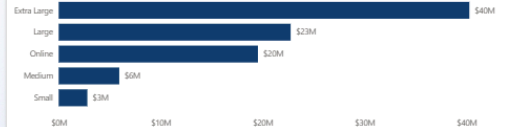
Revenue and Profit by Delivery Status



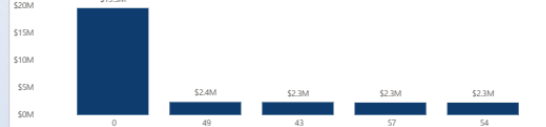
Revenue by Store Open Period



Revenue by Store Size



Revenue by Store ID



Profit by State



Product and Customer Performance

Month

All

Year

2019

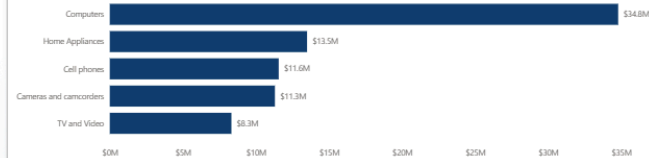
Overview

Revenue & Growth

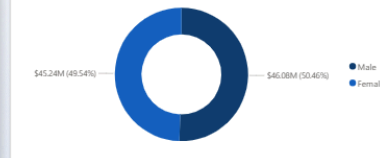
Product & Customer

Store & Location

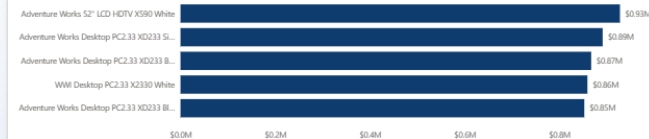
Revenue by Category



Revenue by Gender



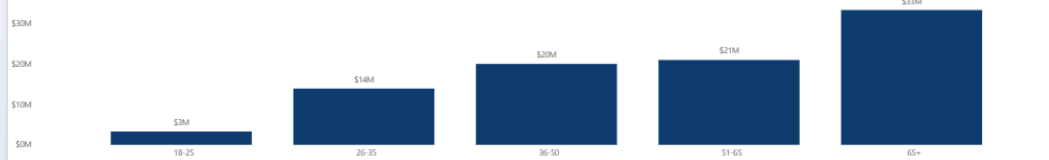
Top 5 Products by Revenue



Bottom Products by Profit



Revenue by Customer Age Group



Conclusion

This project demonstrates how Power BI can transform raw data into an interactive dashboard that highlights business strengths, weaknesses, and opportunities.

The **Mavin Electronics Sales Dashboard** provides executives with a clear view of revenue, profit, products, customers, and stores, and supports data-driven decision-making.

View Dashboard 🖱️

<https://app.powerbi.com/view?r=eyJrIjoibW5ZWm1ZDYtODhiYS00NjU3LWwYzgtNDljODY2Y2VIYjY5IiwidCI6IjRIMzE3MmU3LTU3OWQtNDhkYS1iNDQ2LTk1NTdiOTcxOWE5MSIsImMiOiZ9>