DataSpark: Illuminating Insights for Global Electronics

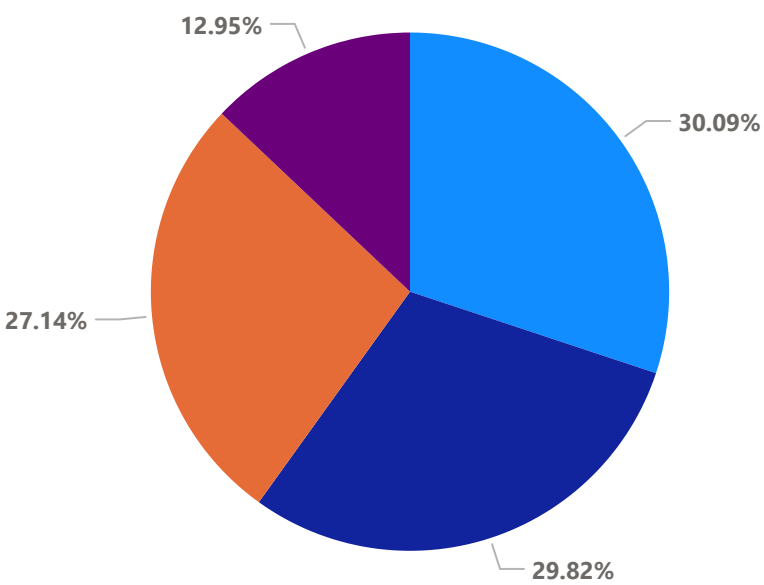By

Sharfudeen Yasar Arafath

Gender Distribution

- Male 50.75%
- Female 49.25%
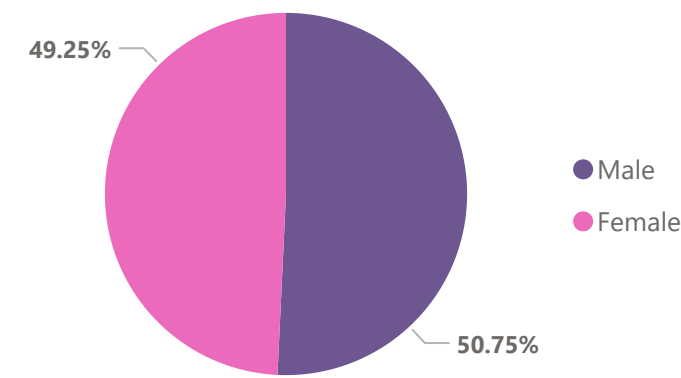
Customers by Age Group

Age Group ● 60 to 80 ● 40 to 60 ● 20 to 40 ● 80 and above

- 30.09%
- 29.82%
- 27.14%
- 12.95%

Customer Performance Analysis

15K

Total Customer Count

Customer by Country

- 44.76%
- 12.74%
- 10.18%
- 9.66%
- 9.31%
- 4.8%
- 4.39%
- 4.16%

Country
- United States
- United Kingdom
- Canada
- Germany
- Australia
- Netherlands
- France
- Italy

Country

All ▾

Gender Diversification by Region

● Female ● Male

Canada
United States
United Kingdom
Netherlands
France
Italy
Germany
Australia

Microsoft Bing

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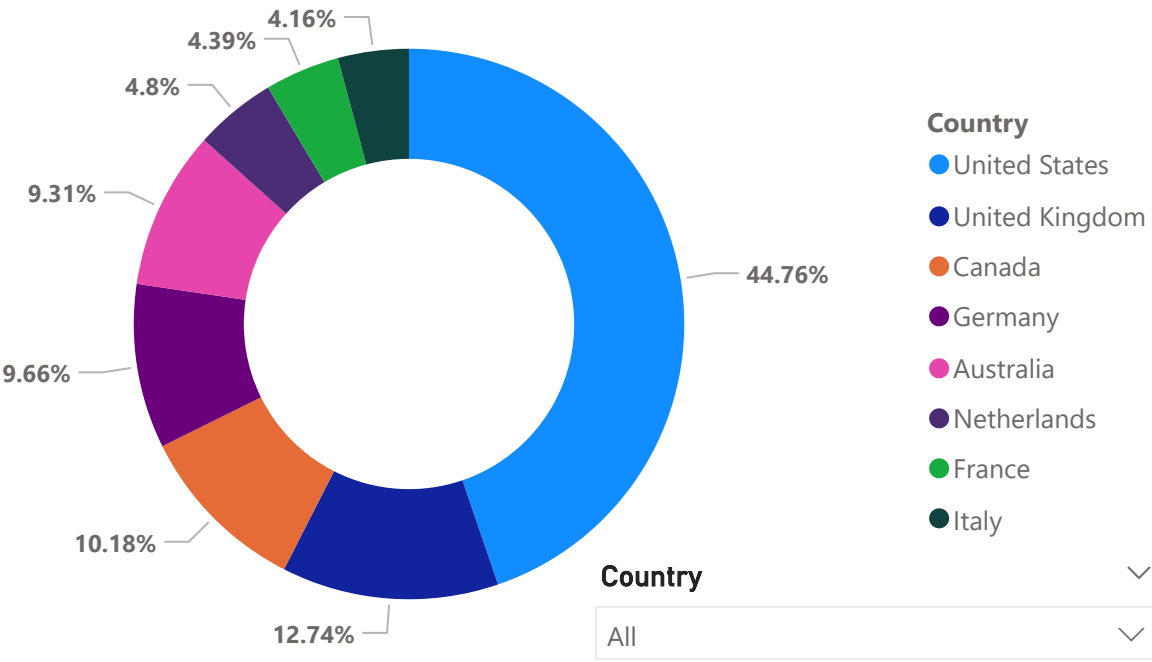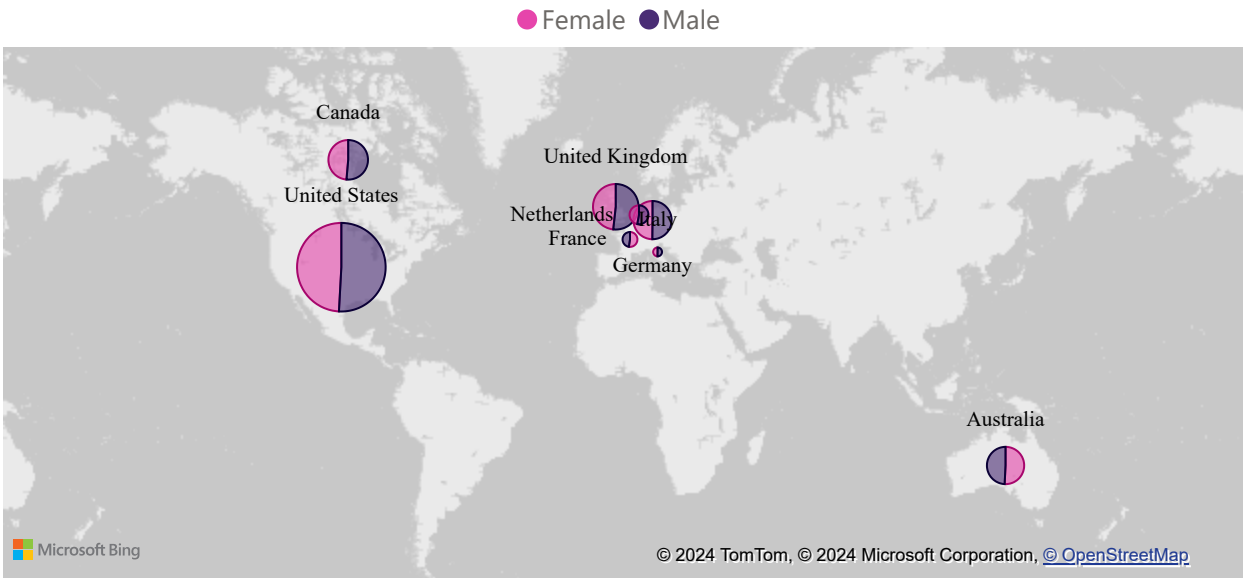
Total Customer Count

- Highlight that the total customer base stands at **15K**.

Gender Distribution

- **Male Customers**: 50.75% of the total customers.
- **Female Customers**: 49.25% of the total customers.
- This indicates a fairly balanced gender representation in the customer base.

Customer Distribution by Age Group

- **30.09%** of customers are aged 60 to 80 years.
- **29.82%** of customers are aged 40 to 60 years.
- **12.95%** of customers are aged 80 and above.
- **27.14%** of customers are aged 20 to 40 years.
- This distribution suggests that the majority of customers fall within the 40-80 age range, highlighting the target demographic's preference.

Customer Distribution by Country

- The **United States** is the leading country, making up **44.76%** of the customer base.
- Other significant countries include the **United Kingdom (12.74%)**, **Canada (9.31%)**, and **Germany (9.66%)**.
- This geographic spread provides valuable insights into market reach and areas that may need more focus for expansion.
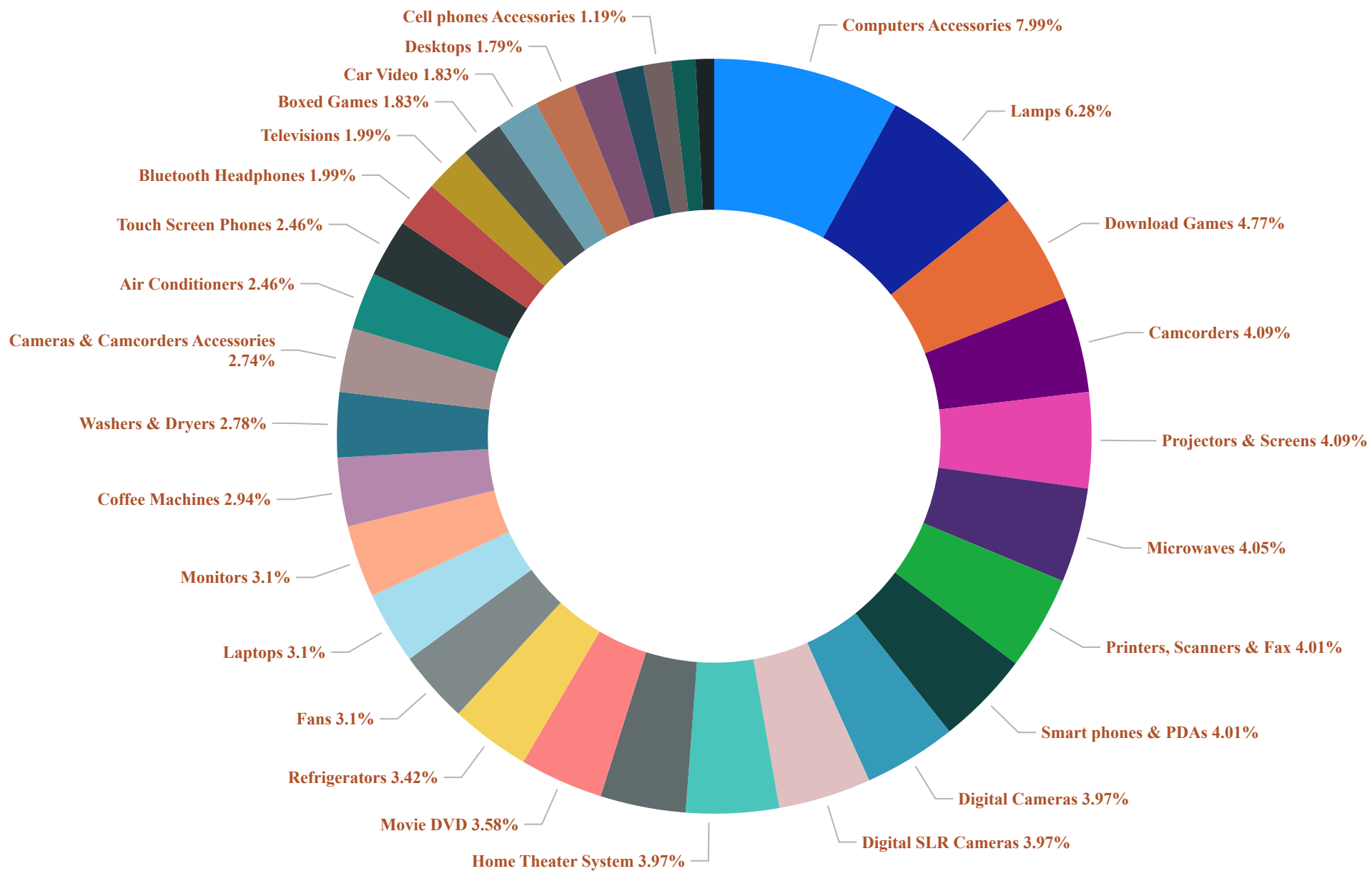
Gender Diversification by Region

- The **United States**, **Canada**, and **United Kingdom** show a near equal gender distribution.
- In other regions such as **Germany** and **Australia**, there is a noticeable variation in the gender split, which could be useful for regional marketing strategies.

Key Takeaway

Product Sub-Category Diversification

- Cell phones Accessories 1.19%
- Desktops 1.79%
- Car Video 1.83%
- Boxed Games 1.83%
- Televisions 1.99%
- Bluetooth Headphones 1.99%
- Touch Screen Phones 2.46%
- Air Conditioners 2.46%
- Cameras & Camcorders Accessories 2.74%
- Washers & Dryers 2.78%
- Coffee Machines 2.94%
- Monitors 3.1%
- Laptops 3.1%
- Fans 3.1%
- Refrigerators 3.42%
- Movie DVD 3.58%
- Home Theater System 3.97%
- Digital SLR Cameras 3.97%
- Digital Cameras 3.97%
- Smart phones & PDAs 4.01%
- Printers, Scanners & Fax 4.01%
- Microwaves 4.05%
- Projectors & Screens 4.09%
- Camcorders 4.09%
- Download Games 4.77%
- Lamps 6.28%
- Computers Accessories 7.99%

Top Sub-Categories by Share
- **Computer Accessories** hold the highest share with **7.99%**.
- **Lamps** are the next significant category with **6.28%**.
- **Download Games** also has a noticeable share at **4.77%**.
- These top sub-categories suggest a strong demand for electronics and related accessories.

Mid-Range Sub-Categories
- Categories like **Camcorders (4.09%)**, **Projectors & Screens (4.09%)**, **Microwaves (4.05%)**, and **Printers, Scanners & Fax (4.01%)** occupy a moderate share in the product range.
- This range of categories highlights diversification within electronics and household products.

Lower Share Sub-Categories
- Items like **Cell Phones Accessories (1.19%)**, **Desktops (1.79%)**, and **Car Video (1.83%)** are at the lower end of the share spectrum.
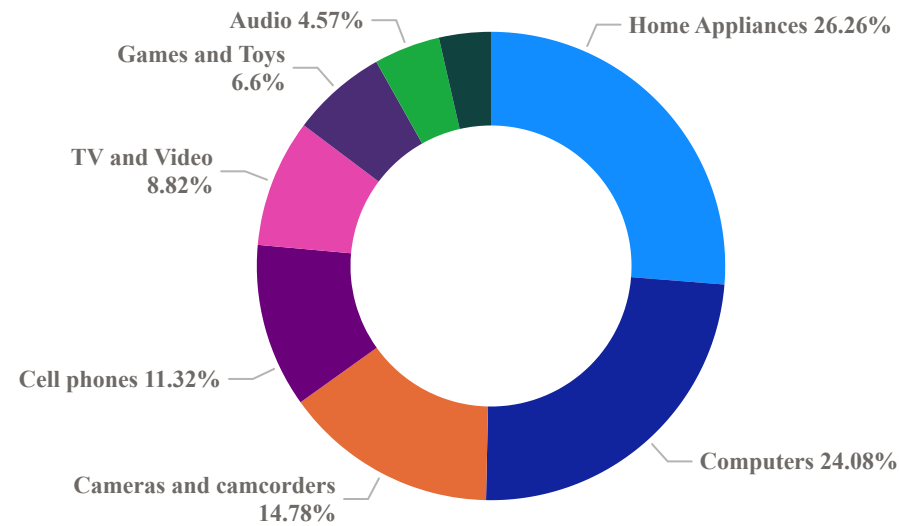- These sub-categories could indicate niche or emerging markets or potentially lower demand in these specific areas.

Diversity of Products
- The chart covers a wide range of products from **household items** (e.g., **Washer & Dryers**, **Coffee Machines**) to **personal electronics** (e.g., **Bluetooth Headphones**, **Smart Phones**).
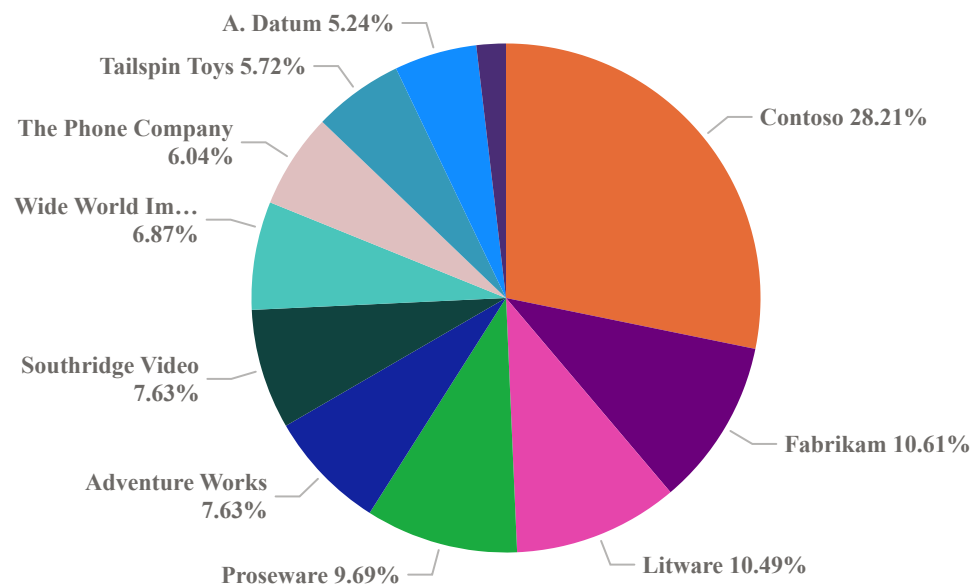- This broad range shows a balanced product portfolio catering to various customer needs.

Key Takeaway
- The product diversification indicates a strong focus on **electronics and household categories**, which are top-selling areas.
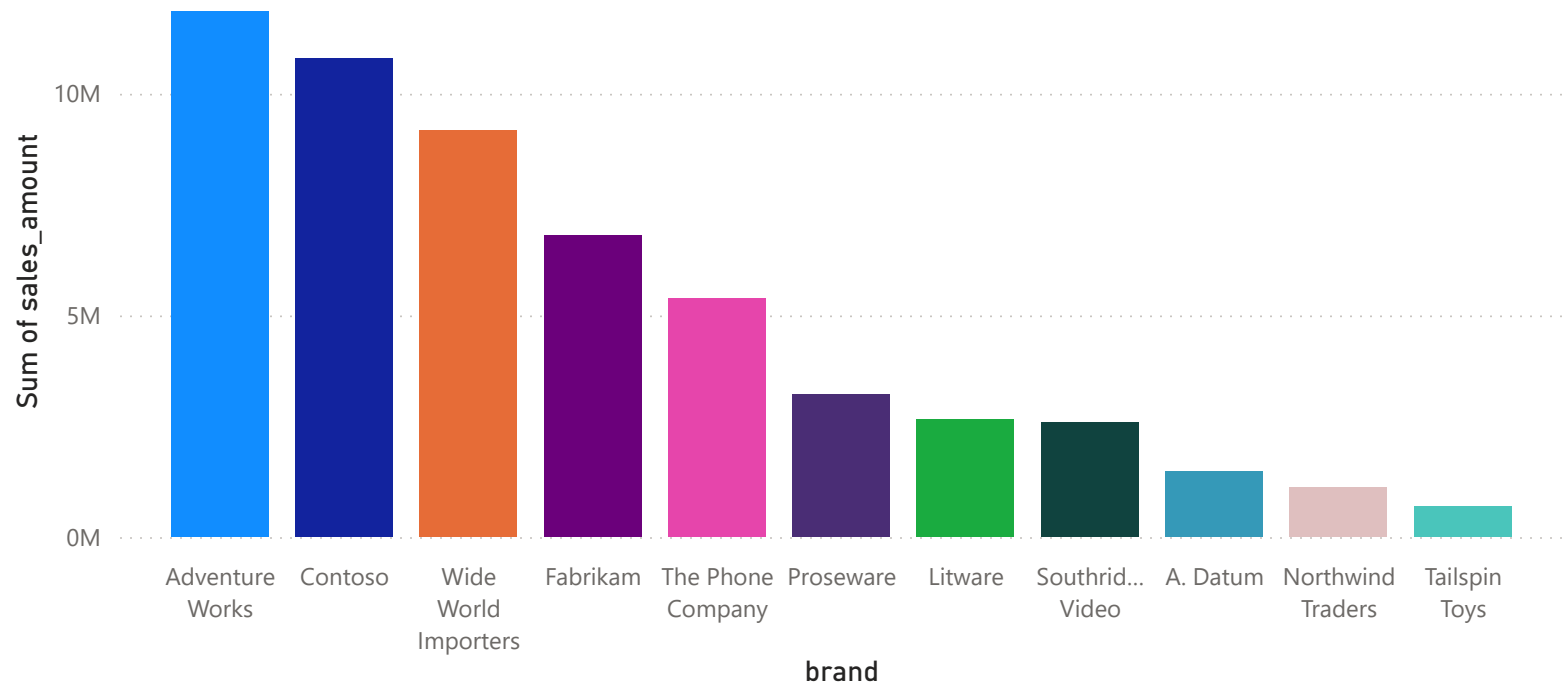- Identifying trends in high-demand sub-categories can help optimize inventory and sales strategies.

Product Distribution as per category

Home Appliances 26.26%
Audio 4.57%
Games and Toys 6.6%
TV and Video 8.82%
Cell phones 11.32%
Cameras and camcorders 14.78%
Computers 24.08%

Product Performance Analysis

brand	Sum of cp	Sum of profit ▼	Sum of sp
Proseware	12,77,340.92	151.51	32,12,628.02
Fabrikam	27,46,418.40	147.88	68,07,893.52
A. Datum	6,02,705.49	146.59	14,86,207.80
Southridge Video	10,55,719.09	144.25	25,78,595.92
Contoso	44,71,116.17	141.38	1,07,92,325.31
Adventure Works	49,12,590.43	141.22	1,18,49,909.29
Wide World Importers	38,05,772.12	141.02	91,72,800.39
Litware	11,05,733.59	140.52	26,59,498.78
Northwind Traders	4,76,656.23	136.24	11,26,069.54
The Phone Company	23,29,057.09	131.29	53,86,820.00
Tailspin Toys	3,09,681.65	120.46	6,82,730.94
Total	**2,30,92,791.17**	**1,542.36**	**5,57,55,479.52**

Brand Count by Product

A. Datum 5.24%
Tailspin Toys 5.72%
The Phone Company 6.04%
Wide World Im… 6.87%
Southridge Video 7.63%
Adventure Works 7.63%
Proseware 9.69%
Litware 10.49%
Fabrikam 10.61%
Contoso 28.21%

Sum of sales_amount by brand

Product Distribution by Category
- **Home Appliances** have the largest share at **26.26%**, followed by **Computers** at **24.08%**.
- Other notable categories include **Cameras and Camcorders (14.78%)** and **Cell Phones (11.32%)**.
- This indicates a focus on essential electronic and household items.

Brand Performance Table (SP, CP, and Profit)
- **Contoso** leads in total sales (SP) with over **1,07M** but has a moderate profit margin.
- **Adventure Works** and **Wide World Importers** also show high sales volumes, indicating strong brand performance.
- The table provides insights into profitability, with **Proseware** and **A. Datum** achieving higher profit percentages despite lower total sales.

Brand Count by Product
- **Contoso** holds the highest share of product count at **28.21%**, followed by **Proseware (9.69%)** and **Fabrikam (10.61%)**.
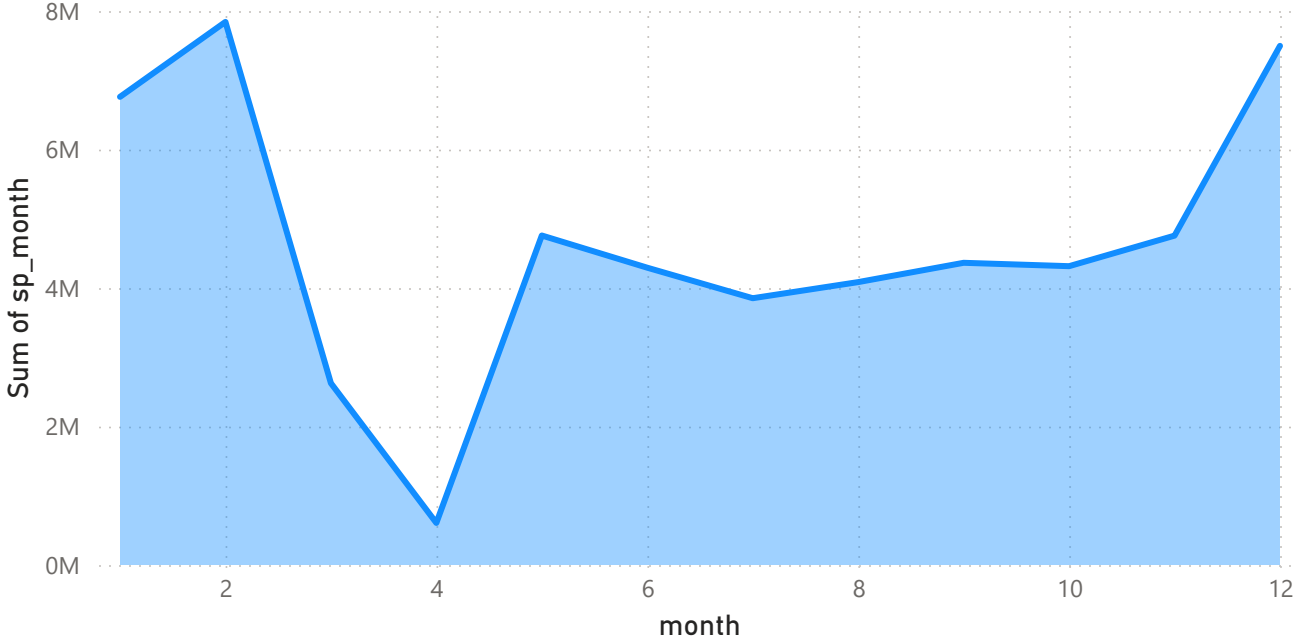- This shows that Contoso has a diverse product portfolio, potentially contributing to its high sales.

Sum of Sales Amount by Brand
- **Adventure Works** and **Contoso** lead in terms of sales revenue, with each reaching nearly **10M**.
- **Wide World Importers** and **Fabrikam** also perform well in revenue generation, emphasizing their market position.
- The chart highlights brand performance by revenue, helping to identify top revenue contributors.

Key Takeaway
- The analysis shows that **Home Appliances, Computers, and Cameras** are dominant product categories, with brands like **Adventure Works** and **Contoso** leading in sales.
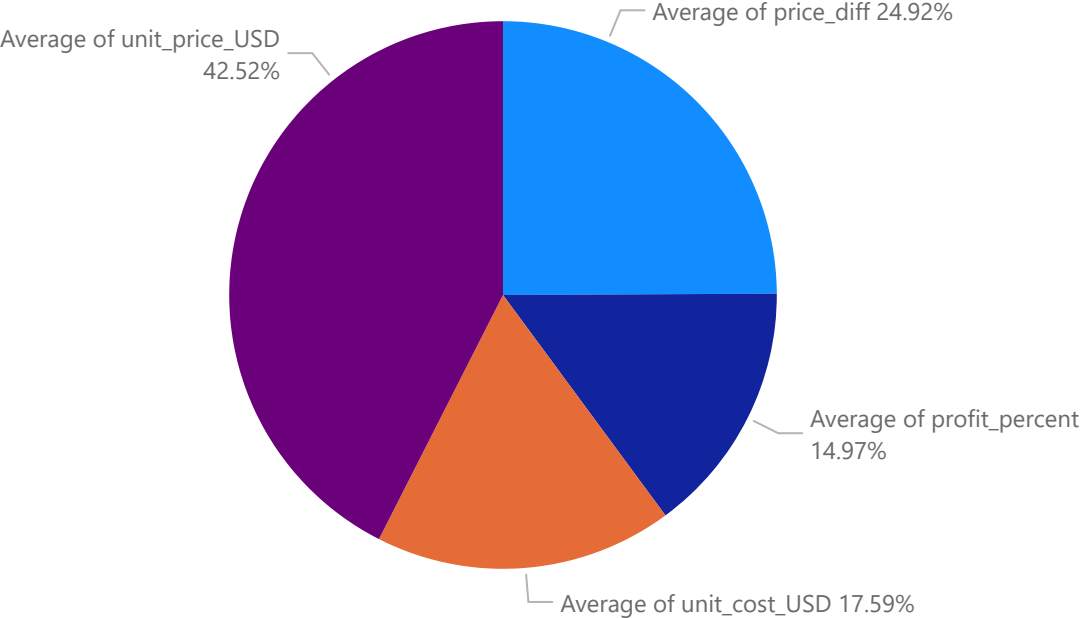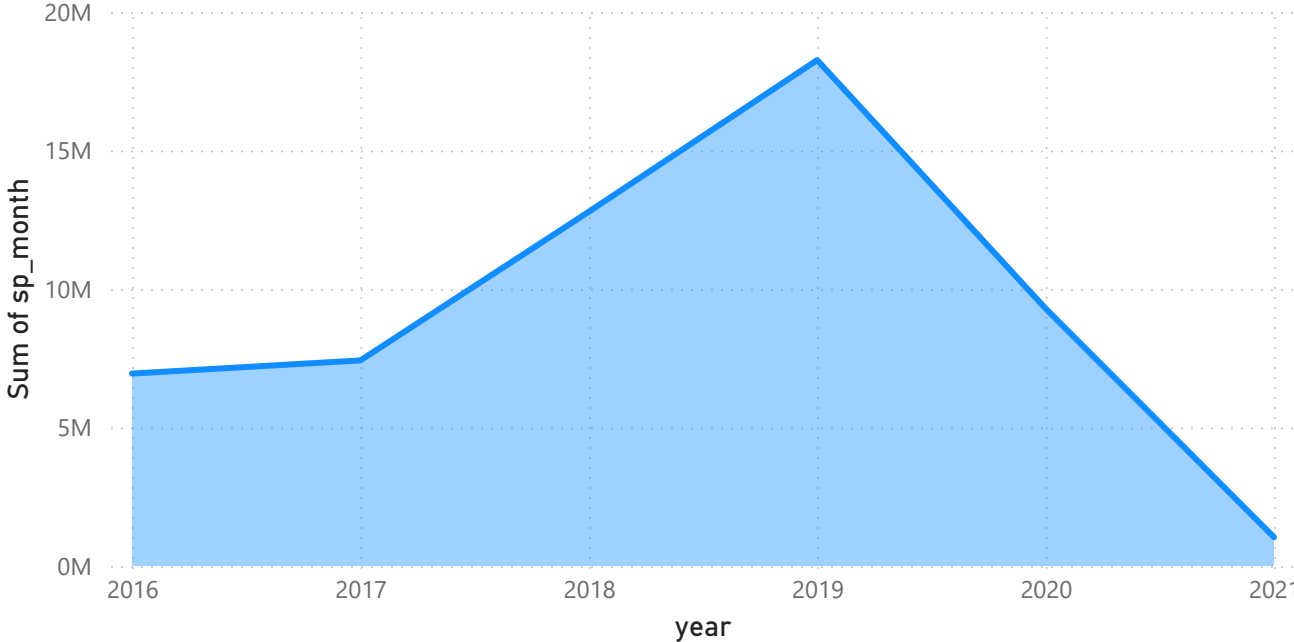- Profitability varies by brand, suggesting opportunities for optimizing pricing and cost structures to improve

Sum of sp_month by month

Sum of sp_month by year

brand

All

Average of unit_price_USD 42.52%

Average of price_diff 24.92%

Average of profit_percent 14.97%

Average of unit_cost_USD 17.59%

Monthly Sales Trends
- Sales peak significantly in **January** and **December**, with dips around the middle of the year.
- This trend could indicate seasonality, such as holiday shopping spikes, suggesting that certain times of the year are more profitable.

Yearly Sales Trends
- There is a steady increase in sales from **2016** to a peak in **2019**.
- After 2019, there is a noticeable decline, possibly due to market changes or external factors affecting sales.
- Highlighting this trend helps assess growth patterns and the impact of external events on sales performance.

**Profitability Analysis (Pie Chart)**
- The **average unit price** contributes to **42.52%** of the total, while the **unit cost** is **17.59%**.
- **Profit Percentage** is **14.97%**, indicating a moderate profit margin.
- The **price difference** between unit price and cost accounts for **24.92%**, providing insight into pricing strategies.

Key Takeaway
- Seasonal trends are evident, with sales spiking at certain times of the year, suggesting targeted marketing efforts could be beneficial.
- Yearly trends show past growth with recent challenges, emphasizing the need to explore factors affecting sales post-2019.
- The profitability analysis highlights room for optimization in pricing and cost management to increase profit margins.
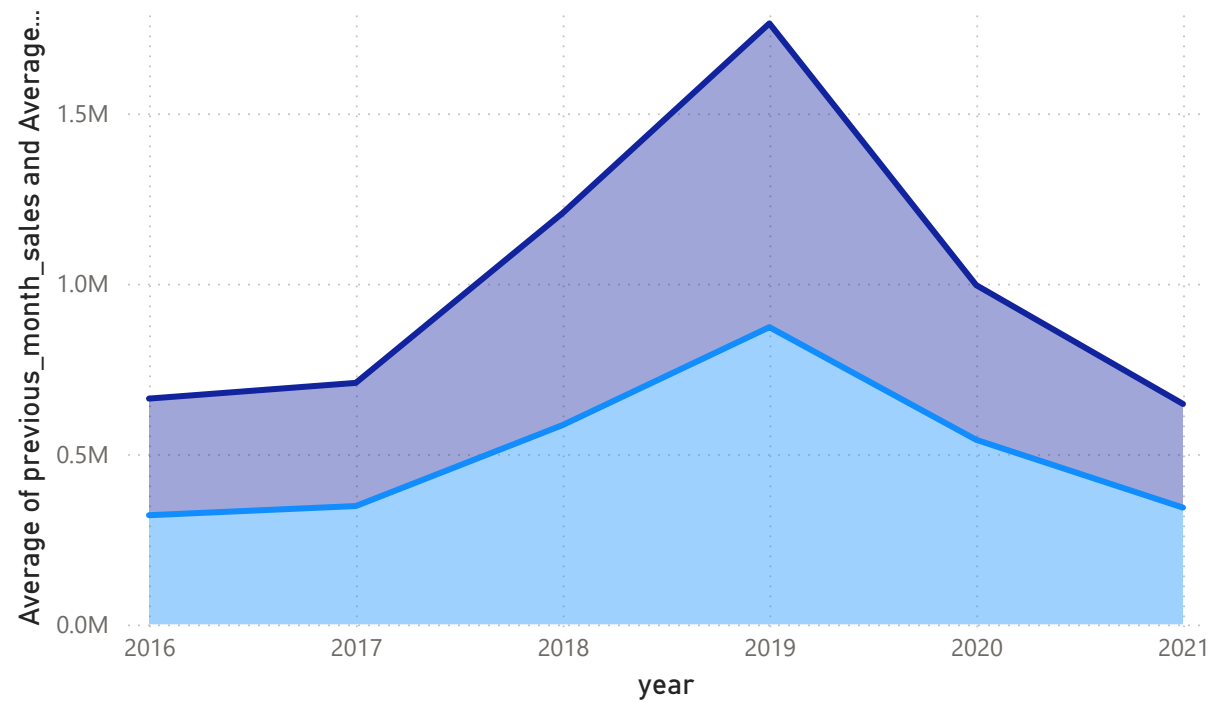
| month	Sum of previous_month_sales	Sum of profit_percent	Sum of sales
1	43,63,979.65	-106.02	39,56,617.19
2	39,56,617.19	117.49	46,17,134.36
3	43,09,150.38	-314.19	15,48,452.35
4	15,48,452.35	-383.49	3,58,629.30
5	3,58,629.30	4,072.10	27,95,945.26
6	27,95,945.26	-51.17	25,04,701.91
7	25,04,701.91	-61.29	22,52,627.57
8	22,52,627.57	32.52	23,96,520.97
9	23,96,520.97	24.91	25,47,030.79
10	25,47,030.79	-28.55	25,12,829.73
11	25,12,829.73	48.12	28,08,219.29
12	28,08,219.29	385.41	43,63,979.65
Total	**3,23,54,704.38**	**3,735.84**	**3,26,62,688.36**

year

All

Average of sp_month by month
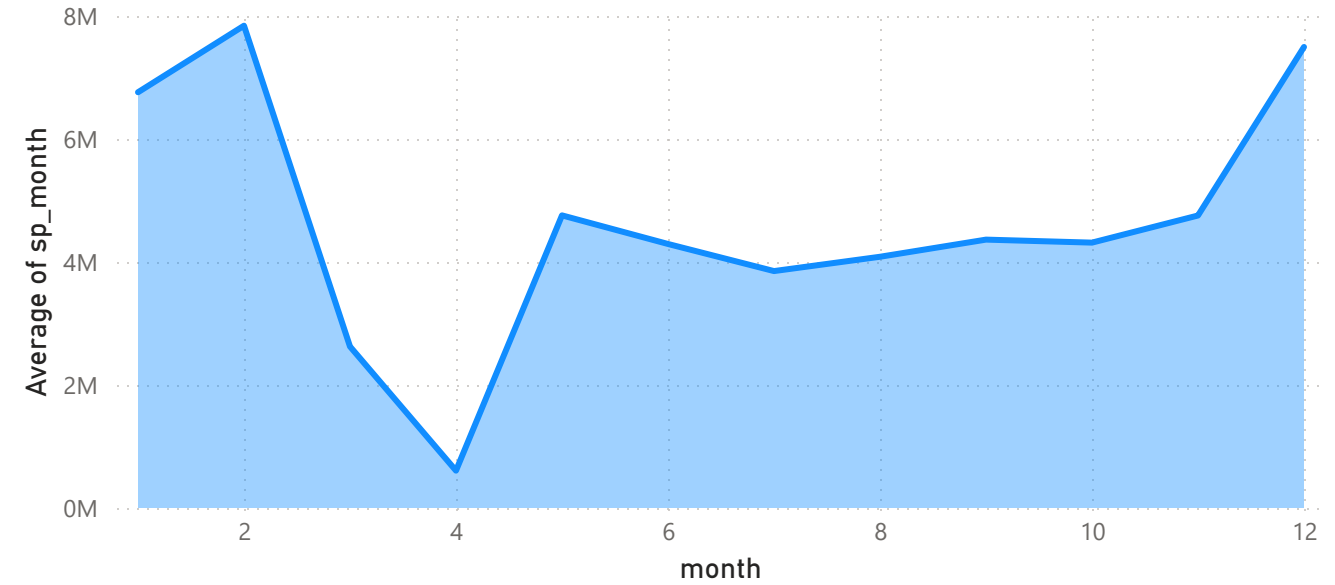
Average of previous_month_sales and Average of sales by year

● Average of previous_month_sales ● Average of sales

Average of previous_month_sales and Average of sales by month

● Average of previous_month_sales ● Average of sales
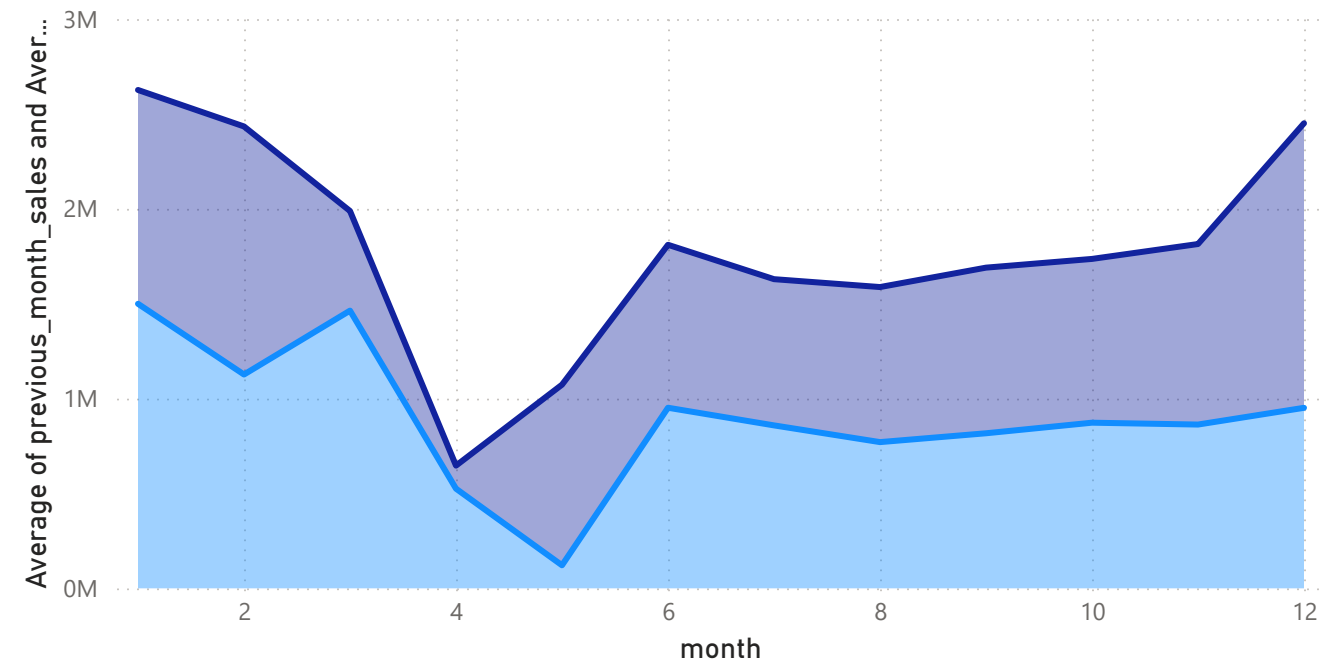
Monthly Sales and Profit Analysis Table
- The table provides detailed monthly sales, previous month sales, and profit percentages.
- **December** has the highest sales with **43.63M**, while **April** shows the lowest at **3.58M**.
- Profit percentages vary, with a few months experiencing negative profit, indicating a need for cost management during these periods.

Monthly Sales Trend
- Sales peak in **January** and **December**, with a sharp drop in **April**.
- This pattern suggests seasonal sales trends, with potential causes such as holiday seasons and market fluctuations.

Yearly Sales Comparison (Previous vs. Current)
- Sales increased steadily until **2019**, followed by a decline, potentially due to external factors affecting the market.
- Comparing average sales with previous year sales helps to analyze growth patterns and understand challenges in recent years.
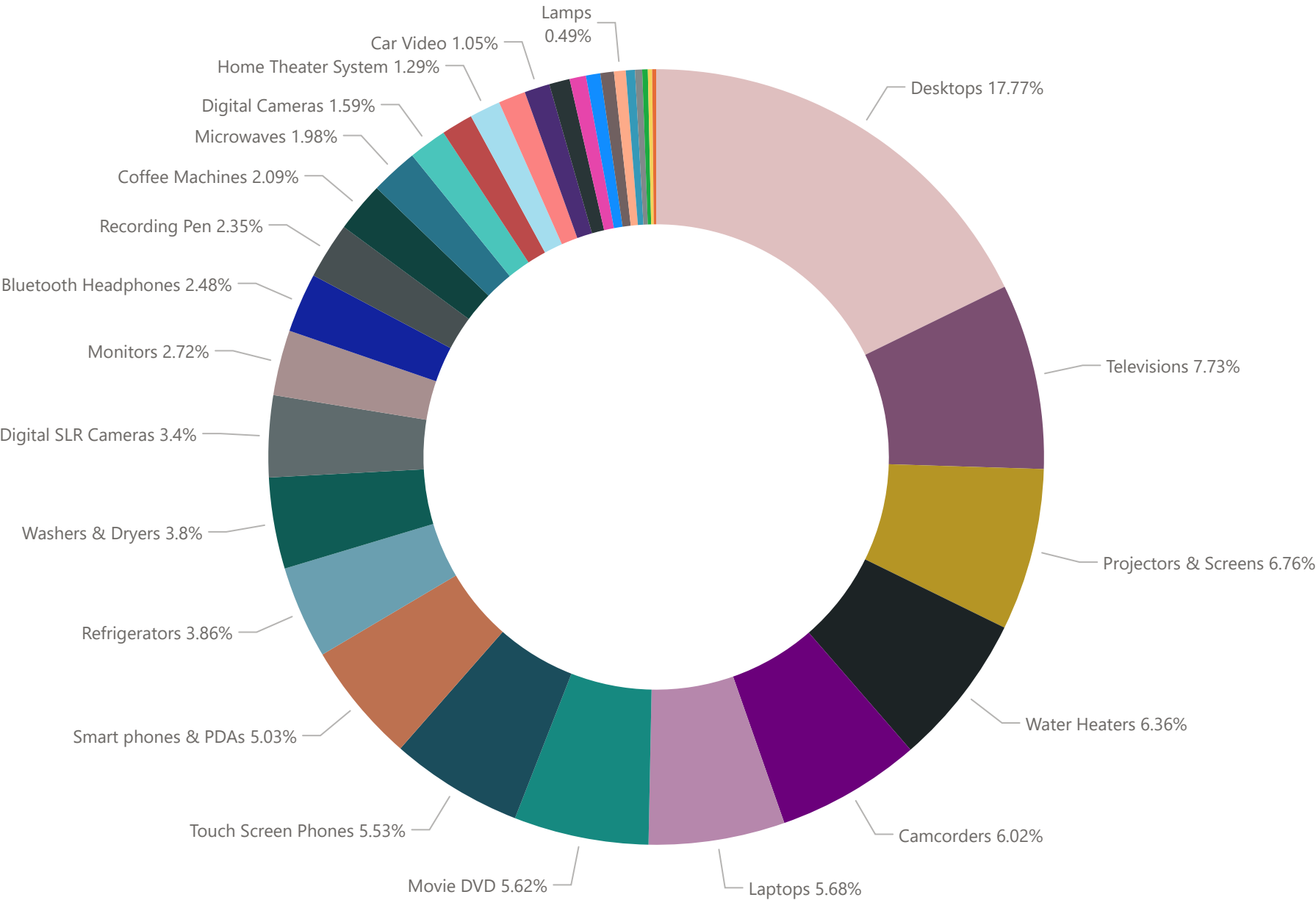
Monthly Sales Comparison (Previous vs. Current)
- The line graph shows fluctuations, with average monthly sales lower in the middle of the year.
- Comparing sales with the previous month helps identify seasonal dips and evaluate strategies to improve performance during slower months.

Key Takeaway
- The data highlights clear seasonal trends in both monthly and yearly sales, with certain months consistently underperforming.
- Addressing cost inefficiencies and optimizing for peak sales periods could help improve profitability.

Sum of total_sales_amount by subcategory

- Desktops 17.77%
- Televisions 7.73%
- Projectors & Screens 6.76%
- Water Heaters 6.36%
- Camcorders 6.02%
- Laptops 5.68%
- Movie DVD 5.62%
- Touch Screen Phones 5.53%
- Smart phones & PDAs 5.03%
- Refrigerators 3.86%
- Washers & Dryers 3.8%
- Digital SLR Cameras 3.4%
- Monitors 2.72%
- Bluetooth Headphones 2.48%
- Recording Pen 2.35%
- Coffee Machines 2.09%
- Microwaves 1.98%
- Digital Cameras 1.59%
- Home Theater System 1.29%
- Car Video 1.05%
- Lamps 0.49%

Top-Performing Subcategories
- **Desktops** contribute the largest share of sales at **17.77%**.
- **Televisions** and **Projectors & Screens** also have significant shares, at **7.73%** and **6.76%** respectively.
- These categories highlight the strong demand in electronics and visual entertainment products.

Mid-Level Sales Contributors
- **Laptops (5.68%)**, **Touch Screen Phones (5.53%)**, and **Movie DVDs (5.62%)** form a substantial portion of mid-level sales.
- This indicates a consistent interest in multimedia and portable electronics among customers.

Lower Sales Contributors
- Categories like **Lamps (0.49%)**, **Car Video (1.05%)**, and **Home Theater System (1.29%)** have lower sales contributions.
- These lower percentages could indicate niche products or areas with lower market penetration.

Product Variety
- The chart illustrates a broad range of product categories, from **household appliances** (e.g., **Washers & Dryers, Water Heaters**) to **gadgets** (e.g., **Smartphones & PDAs, Bluetooth Headphones**).
- This diversity allows for targeting different customer segments and adapting to varied consumer needs.

Key Takeaway
- The analysis reveals a high demand for **computing and entertainment products**, with potential growth opportunities in lower-performing categories.
- Understanding these sales distributions can guide inventory and marketing efforts to focus on top-selling categories while exploring strategies for growth in lower-sales areas.

Sum of year_sales by year and brand
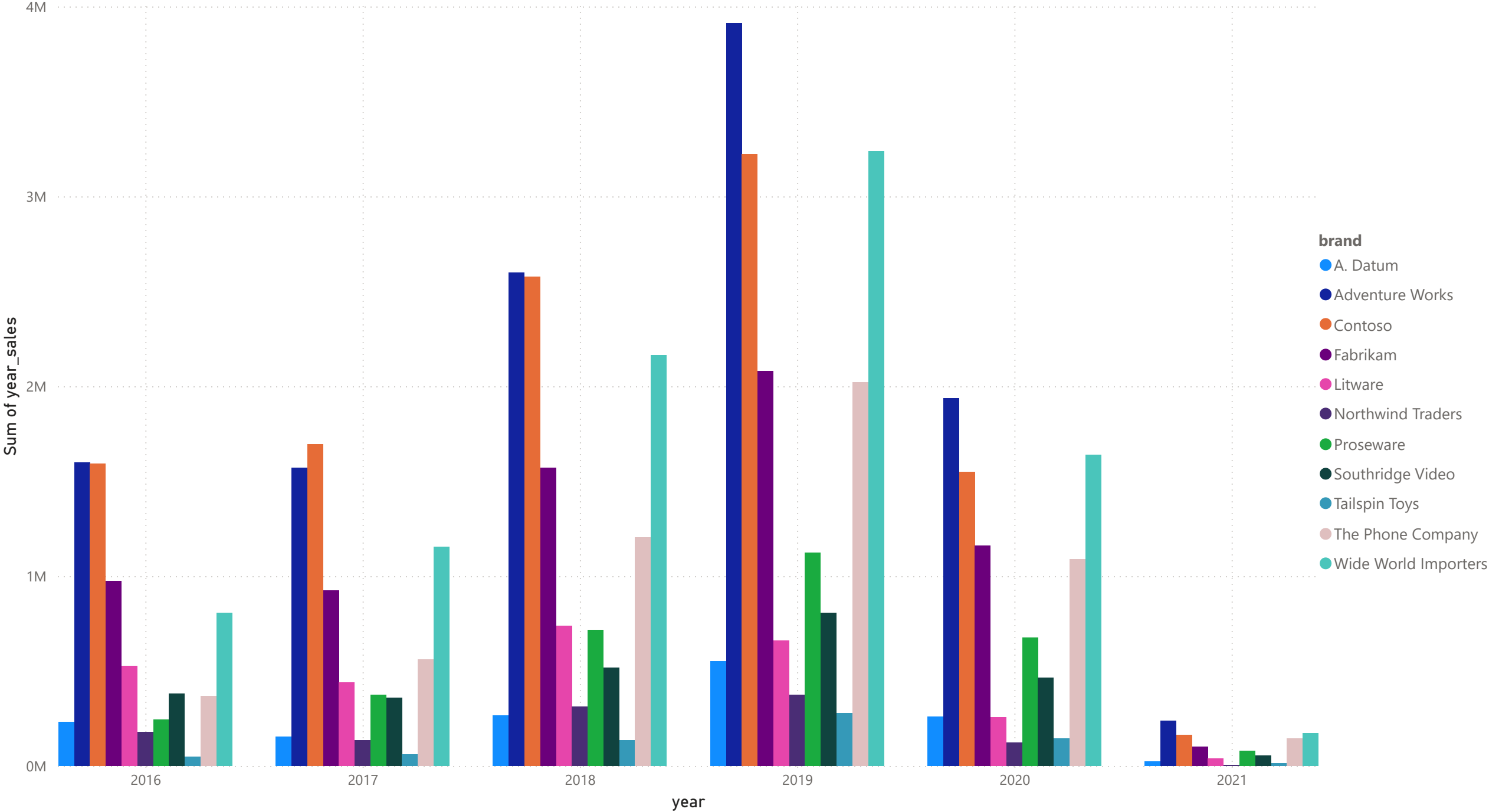
Top-Performing Brands by Year
- **Adventure Works** and **Contoso** consistently show high sales across multiple years, with peaks around **2018** and **2019**.
- **Wide World Importers** also has significant sales, especially noticeable in **2018** and **2020**.

Yearly Sales Trends
- Sales peak around **2018 and 2019** across most brands, indicating a period of strong performance.
- There is a visible drop in sales after **2019**, with 2021 showing much lower sales across all brands, potentially due to external market factors or changes in demand.

Brand-Specific Performance
- **Contoso** and **Adventure Works** show strong growth patterns but experience a sharp decline after their peak years.
- **Wide World Importers** shows resilience, maintaining relatively higher sales even during the decline in **2020**.
- Other brands like **Southridge Video** and **The Phone Company** have lower but steady sales, indicating a more niche or consistent customer base.
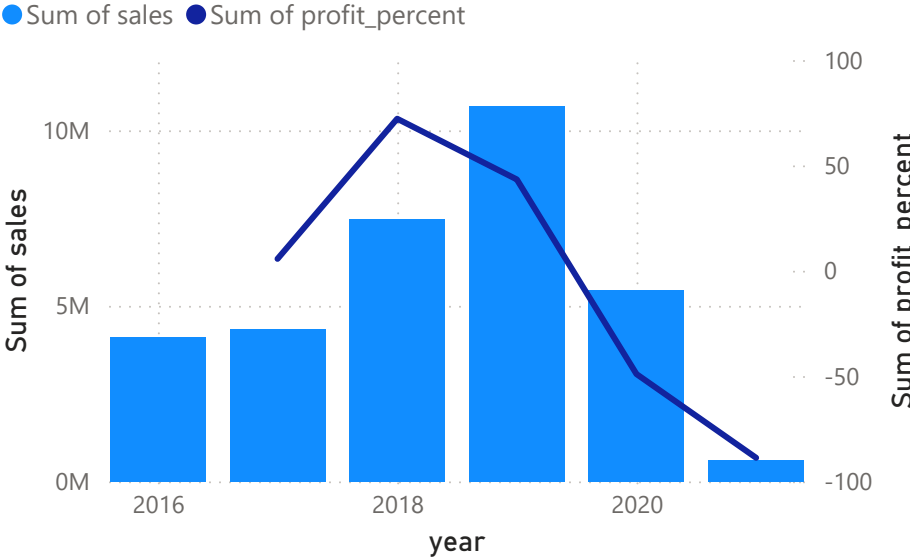
Growth and Decline Patterns
- The chart helps identify which brands have cyclical sales patterns and which ones face larger fluctuations.
- Understanding these trends can inform strategic decisions, such as focusing on high-performing brands during peak years or supporting lower-performing brands with targeted promotions.

Key Takeaway
- **Adventure Works**, **Contoso**, and **Wide World Importers** are major sales drivers.
- The data suggests that exploring reasons behind the sales decline after **2019** could be valuable, possibly due to economic or industry-specific impacts.

year	Sum of sales	Sum of profit_percent	Sum of previous_year_sales
2016	41,07,000.46		
2017	43,37,064.06	5.60	41,07,000.46
2018	74,64,961.11	72.12	43,37,064.06
2019	1,06,97,738.90	43.31	74,64,961.11
2020	54,47,460.15	-49.08	1,06,97,738.90
2021	6,08,463.69	-88.83	54,47,460.15
Total	**3,26,62,688.36**	**-16.88**	**3,20,54,224.67**

Sum of total_sales_amount by country

Sum of sales and Sum of profit_percent by year

● Sum of sales ● Sum of profit_percent

Sum of storekey by country

year	Sum of sales	Sum of previous_year_sales
2016	69,46,793.54	
2017	74,21,422.26	69,46,793.54
2018	1,27,88,960.65	74,21,422.26
2019	1,82,64,382.46	1,27,88,960.65
2020	92,94,632.13	1,82,64,382.46
Total	**5,57,55,479.52**	**5,47,16,191.05**

Yearly Sales and Profit Percentage
- Sales peaked in **2019** with **106.97M**, but profit percentages have been declining, reaching negative values in **2021**.
- The graph shows a steady increase in sales from **2016 to 2019**, followed by a decline. The profit margin, however, starts to decrease significantly after **2018**.
- This suggests potential cost increases or pricing challenges that impacted profitability despite high sales volumes.

Sales and Store Distribution by Country
- The **United States** leads in both total sales and store count, followed by countries like **Canada**, **United Kingdom**, and **Germany**.
- The concentration of stores aligns with sales distribution, indicating that sales performance may be directly related to the number of stores in each country.

Global Market Presence
- The maps highlight a global market presence, with major contributions from North America and Europe.
- Countries with fewer stores (e.g., **Australia** and **Italy**) show smaller sales contributions, indicating opportunities for market expansion.

Profit and Previous Year Sales Comparison
- Yearly data shows significant previous year sales growth until **2019**, followed by a sharp decline.
- The profit percentage trend reveals challenges in maintaining profitability despite high sales, especially in recent years.

Key Takeaway
- The data suggests that while sales have been strong in core markets like the U.S. and Canada, profitability is declining, likely due to increasing costs or competitive pressures.
- There may be potential to expand in underrepresented markets and improve profitability through cost management or pricing strategies.

Thank you