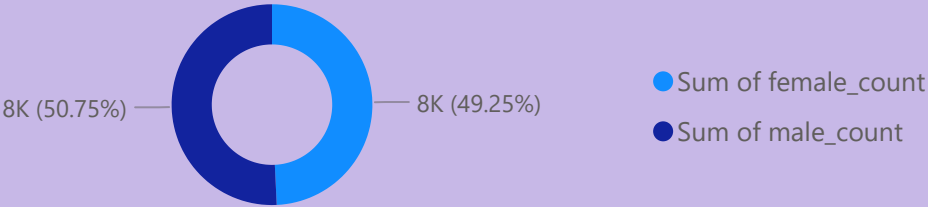# DataSpark: Illuminating Insights for Global Electronics
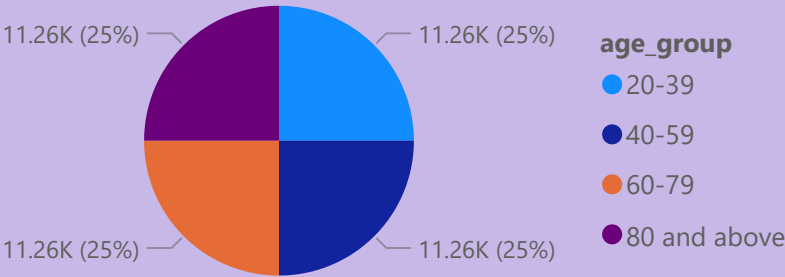
By examining Global Electronics' customer, product, sales, and store data, we aim to uncover key insights that will enhance marketing strategies, optimize inventory management, and improve sales forecasting. These insights will enable the design of targeted marketing campaigns, the development of better products, and the execution of impactful promotions. Furthermore, they will guide strategic decisions on store expansions and operational improvements. Analyzing the effect of currency exchange rates on sales will also support the formulation of more effective international pricing strategies. Ultimately, this analysis seeks to drive business growth and elevate customer satisfaction for Global Electronics.

Customer Analysis:

Sum of female_count and Sum of male_count

- 8K (50.75%)
- 8K (49.25%)
- ● Sum of female_count
- ● Sum of male_count

Count of birthday by age_group

- 11.26K (25%)
- 11.26K (25%)
- 11.26K (25%)
- 11.26K (25%)

age_group
- ● 20-39
- ● 40-59
- ● 60-79
- ● 80 and above

country

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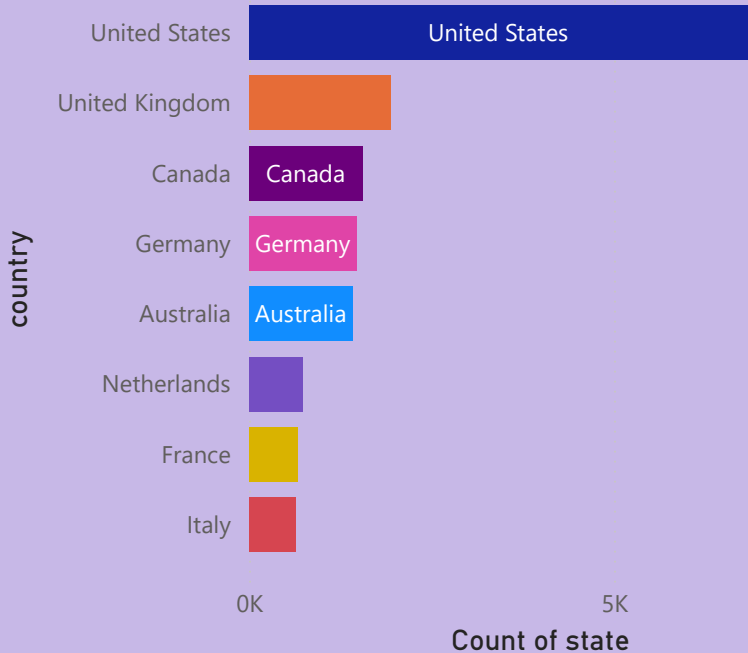
15.11K
Count of name

Count of state by country and country

country ● United States ● United Kingdo... ● Canada ● Germany

country: United States, United Kingdom, Canada, Germany, Australia, Netherlands, France, Italy

Count of state

Count of state and Count of country by continent

- ● Count of state
- ● Count of country

continent: North America, Europe, Australia

Count of state and Count of country
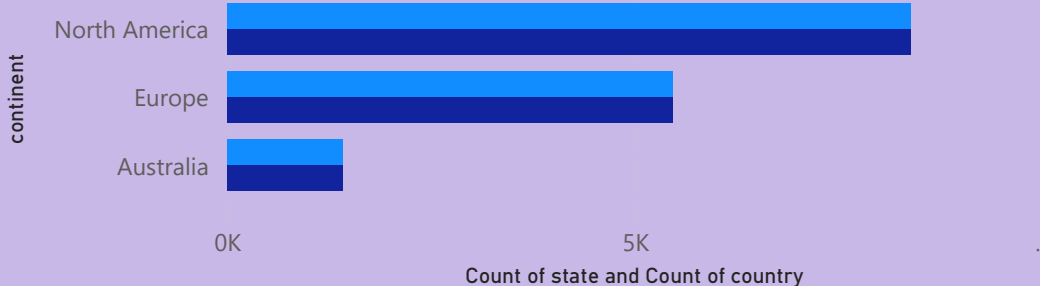
state

- ☑ (Blank)
- ☐ Alaska
- ☐ Arkansas
- ☐ Armagh
- ☐ Australian Capital Territory
- ☐ Ayrshire
- ☐ Basse-Normandie
- ☐ Belfast
- ☐ Berlin
- ☐ Blaenau Gwent
- ☐ Brandenburg
- ☐ Caltanissetta
- ☐ Connecticut
- ☐ Corse
- ☐ Delaware
- ☐ Drenthe
- ☐ Dungannon and South Tyrone
- ☐ Enna
- ☐ Fermanagh
- ☐ Flevoland
- ☐ Franche-ComtÃ©
- ☐ Freie Hansestadt Bremen
- ☐ Freistaat ThÃ¼ringen
- ☐ Friesland

Insights Summary:

1. Gender Distribution:

- The customer base is nearly evenly divided by gender, with females accounting for 50.75% and males 49.25%. This indicates balanced representation among male and female customers.

2. Age Groups:

- Customers are evenly distributed across four age groups (20–39, 40–59, 60–79, and 80+), each accounting for approximately 25% of the total. This suggests an opportunity to tailor products and marketing strategies for diverse age demographics.

3. Regional Distribution:

- North America, particularly the United States, dominates the customer base, with significant contributions from Europe and Australia. This highlights the U.S. as a core market, with growth potential in European and Australian markets.

4. Top Markets by Country:

- The United States is the leading market, followed by the United Kingdom, Canada, Germany, and Australia. These countries represent key areas for targeted campaigns and expansion strategies.
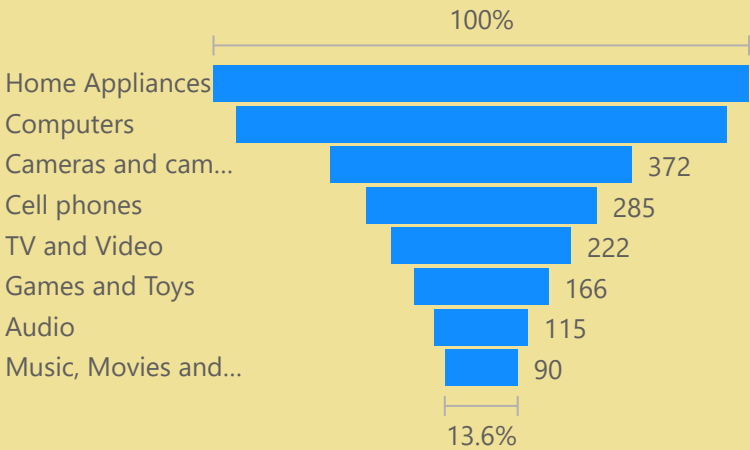
5. Customer Count:

- The total customer count stands at 15.11K, indicating a substantial customer base to leverage for marketing and sales initiatives.
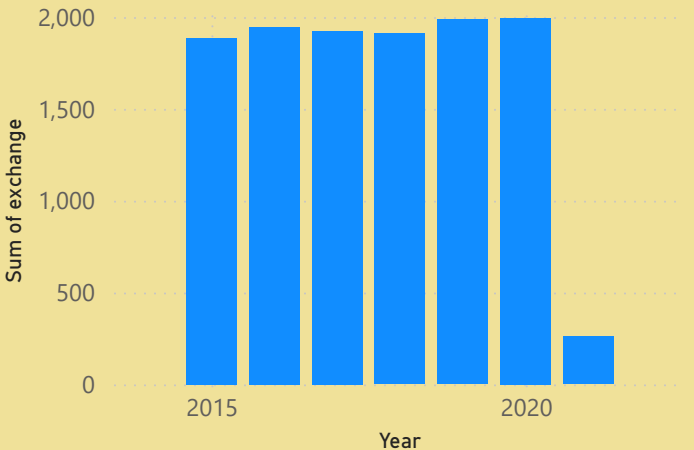
6. Geographic Insights:

- North America leads in terms of customer distribution, with notable representation in Europe and Australia. Expanding efforts in Europe (e.g., Germany, UK) and Australia could yield further growth opportunities.

Sales And Product Analysis:

Count of category by category

- Home Appliances
- Computers
- Cameras and cam... — 372
- Cell phones — 285
- TV and Video — 222
- Games and Toys — 166
- Audio — 115
- Music, Movies and... — 90

100%

13.6%

Sum of exchange by Year

Sum of exchange

2,000
1,500
1,000
500
0

2015   2020

Year

356.81K
Sum of unit_cost_usd

2211
Sum of storekey

Count of color by color

color	
50 (1.99%)	Black
84 (3.3...)	White
2...	Silver
(...)	Grey
602 (23.92%)	Blue
505 (20.06...)	Red
417 (16.57%)	

236.17K
Sum of total profit

592.98K
Sum of unit price usd

Sum of quantity by currency_code

Sum of quantity

20K
10K
0K

USD   EUR   GBP   CAD   AUD

currency_code

country and name

name ● ltefanija ... ● ltefica ... ● Aagje Ma... ▶

AMERICA   EUROPE   AS
Atlantic Ocean
AFRICA
SOUTH AMERICA

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Sum of quantity by Year

Sum of quantity

20K
15K
10K
5K
0K

2016   2018   2020   2022

Year

Contoso
1,26,081.68
Sum of unit_price_usd

Fabrikam
1,04,162.44
Sum of unit_price_usd

Litware
69,206.01
Sum of unit_price_usd

Proseware
60,939.63
Sum of unit_price_usd

Adventure Works
59,166.23
Sum of unit_price_usd

Wide World Importers
51,500.35
Sum of unit_price_usd

The Phone Company
43,499.00
Sum of unit_price_usd

A. Datum
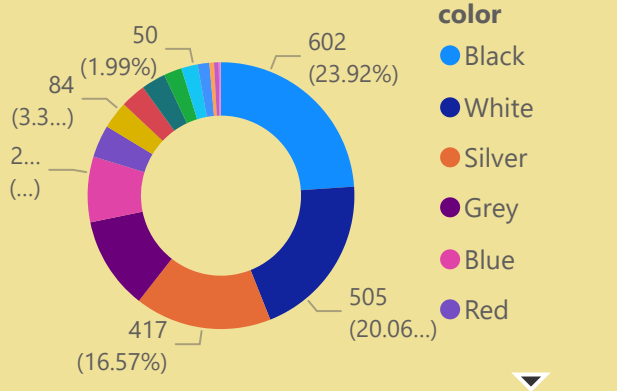34,732.60
Sum of unit_price_usd

Southridge Video
30,907.17

Sales Insights Summary:
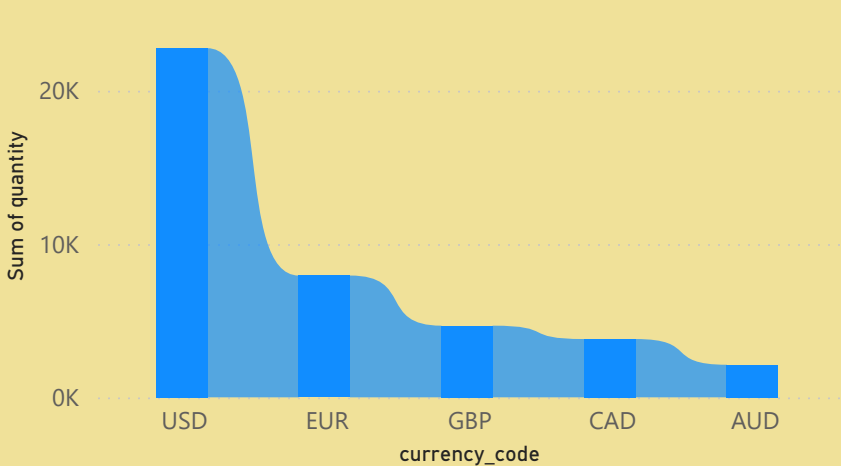
a. Overall Sales Performance

- Total Profit: $236.17K

- Total Unit Price (Revenue): $592.98K

- Unit Cost: $356.81K
This indicates a healthy profit margin across the sales.

b. Top Performing Categories:

1. Home Appliances leads with the highest count, dominating sales in this category.

2. Followed by Computers, Cameras and Camcorders, and Cell Phones.

3. Music, Movies, and Audio has the lowest contribution, suggesting a potential area for improvement or reconsideration.

c. Sales Trends by Year:

- Sales peaked between 2016 and 2020 ,but experienced a decline in the most recent year (2021). This highlights the need to investigate and address the recent dip in performance.

d. Currency Insights:

- Sales are dominated by USD, with the highest quantity sold.

- EUR contributes significantly but trails behind USD, while GBP, CAD, and AUD show much lower quantities. This suggests stronger performance in U.S. and Eurozone markets.

Product Insights Summary:

Category Performance:
- Home Appliances is the leading product category, contributing the highest sales.

- Computers and Cameras & Camcorders follow as strong-performing categories.

- Music, Movies, and Audio* represents the lowest-performing category (13.6%), indicating potential for improvement or a niche focus.

Profitability:
- The total profit from all products is $236.17K, reflecting a significant margin over the unit cost of $356.81K and revenue of $592.98K. High-performing categories like Home Appliances likely drive profitability.

Color Preferences:
- Black (23.92%) is the most popular product color, followed by Red (20.06%), and Blue (16.57%).

- White, Silver, and Grey contribute less, suggesting a focus on enhancing the appeal of these options could be worthwhile.
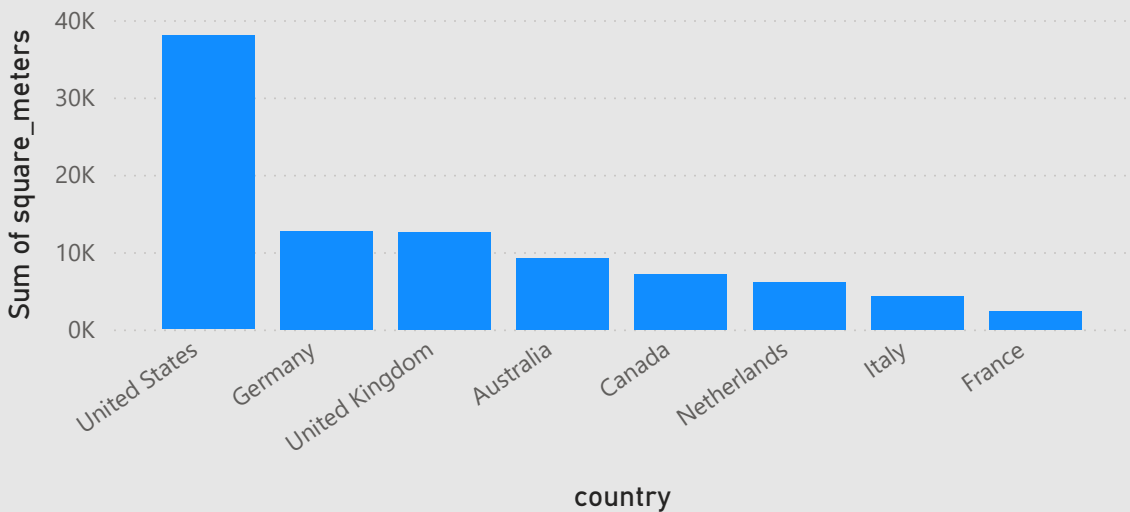
Product Exchange Trends:
- Product exchanges have remained consistent from 2015–2020, with a noticeable decline in the most recent period. This could reflect improved customer satisfaction or a reduction in defective products.

Store and Exchange Analysis:

92.55K
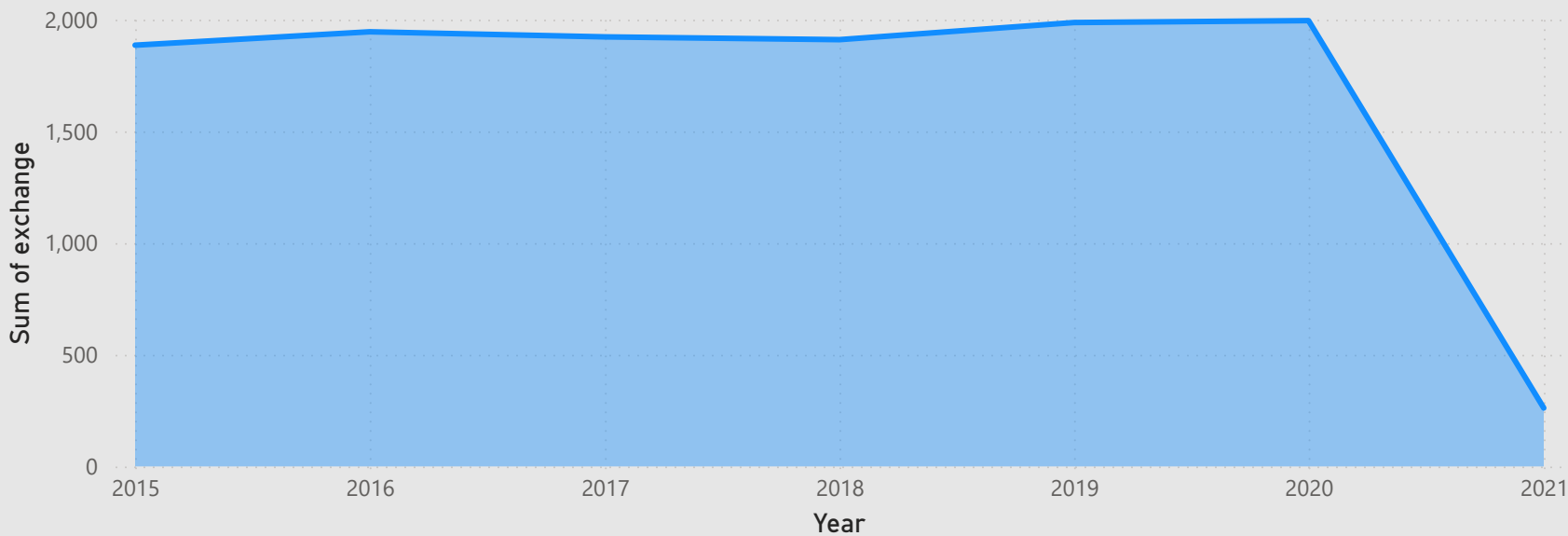Sum of square_meters

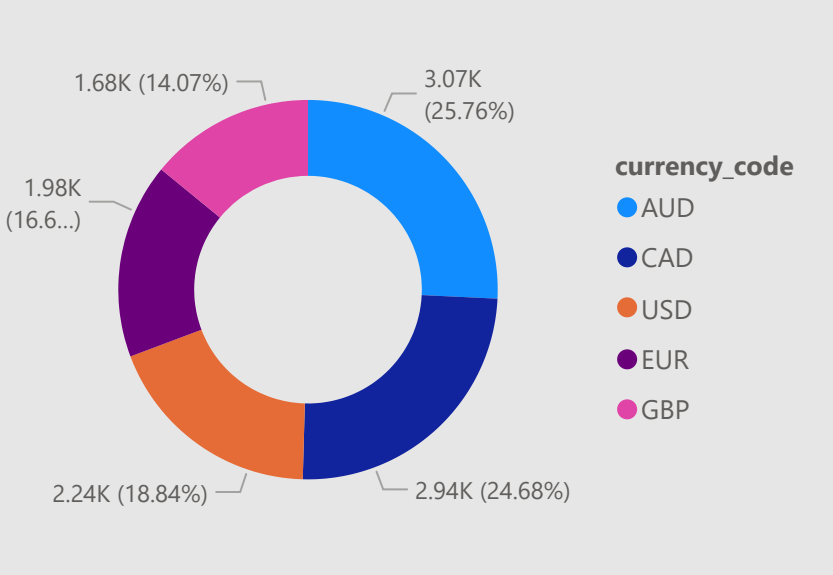## Sum of square_meters by country

sum of exchange

11.91K
Sum of exchange

Sum of exchange by Year

Sum of exchange by currency_code

currency_code	
●	AUD
●	CAD
●	USD
●	EUR
●	GBP

1.68K (14.07%)

3.07K (25.76%)

1.98K (16.6...)

2.24K (18.84%)

2.94K (24.68%)

Store Insights:

The total store area across all locations is 92.55K sqm, indicating a sizable physical presence.
The United States leads with the largest store area, contributing significantly to the total square meters.
Other major contributors include Germany, the United Kingdom, and Australia, while smaller contributions come from Canada, the Netherlands, Italy, and France.

Exchange Insights:

The total sum of exchange is 11.91K across all currencies.
Currency Distribution:
AUD (Australian Dollar) leads, contributing 25.76% of the total.
CAD (Canadian Dollar) and USD (United States Dollar) follow, contributing 24.68% and 16.6%, respectively.
EUR (Euro) accounts for 18.84%, while GBP (British Pound) contributes the least at 14.07%.

Trends by Year:

Sales performance through exchange rates saw stability from 2015 to 2019, peaking in 2018, but experienced a steep decline after 2019, reaching its lowest in 2021.

Problem Statement:

Global Electronics, a leading retailer in consumer electronics, aims to harness data-driven insights to enhance customer satisfaction, optimize operations, and drive business growth. By examining customer demographics, product performance, sales patterns, and store metrics, the company seeks to identify improvement opportunities, refine marketing approaches, and develop effective pricing strategies, particularly considering the impact of currency exchange rates.

Business Use Cases:

The primary goals are to improve marketing efficiency, streamline inventory management, and enhance sales forecasting. Understanding customer preferences and regional sales patterns will allow Global Electronics to tailor promotions, refine product offerings, and plan expansion more effectively. Addressing how currency exchange rates affect international sales is critical for creating competitive pricing strategies in global markets.

Conclusion:

Analyzing customer demographics, product performance, store metrics, and regional trends provides Global Electronics with actionable insights for strategic decision-making. By focusing on high-performing categories, improving store operations, and adjusting strategies to address currency fluctuations, the company can drive business growth and enhance customer satisfaction across its markets.

Presented by : Harish Kumar.M