

DATA CO SUPPLY CHAIN REPORT

I. Introduction

The "Dataco Supply Chain" dataset consists of 52 columns. Within the constraints of time and analytical scope, I analyzed the dataset from four perspectives:

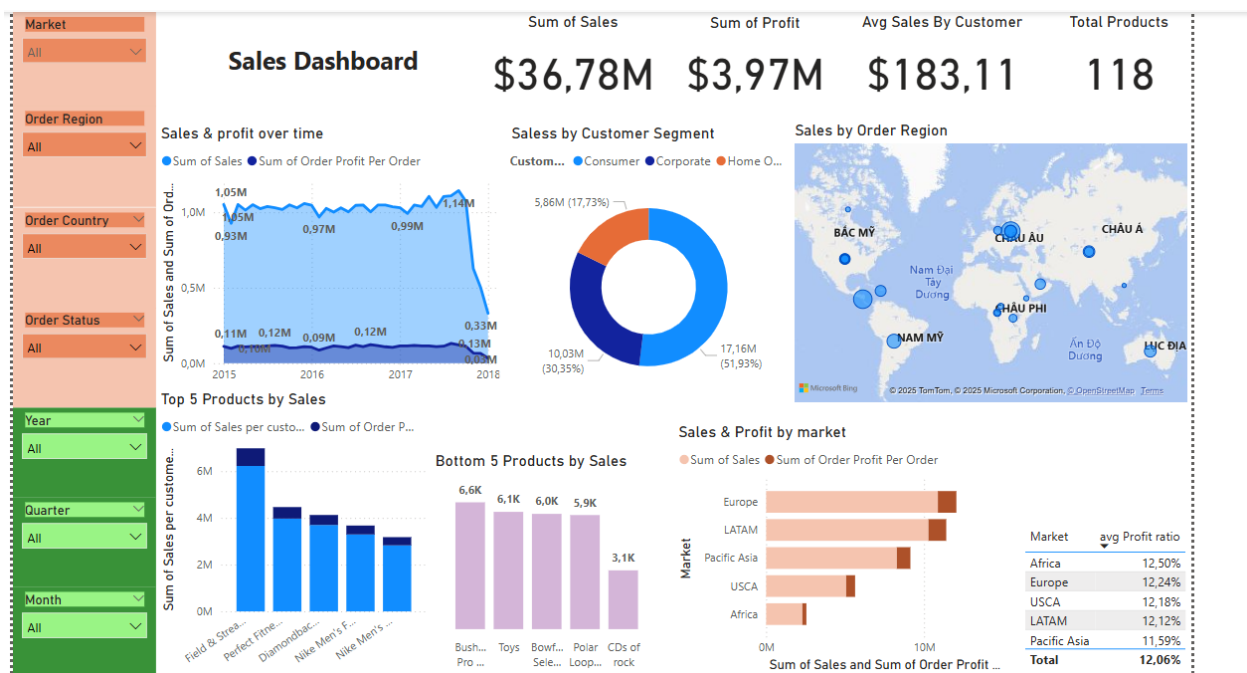
- Sales
- Quantity
- Customers
- Orders

Additionally, there are two findings on the "golden time" and the top product categories that contribute significantly to revenue.

*Note: On the left side of the dashboard pages, there are slicers for geography, time, and order status, allowing viewers to easily filter by specific objects.

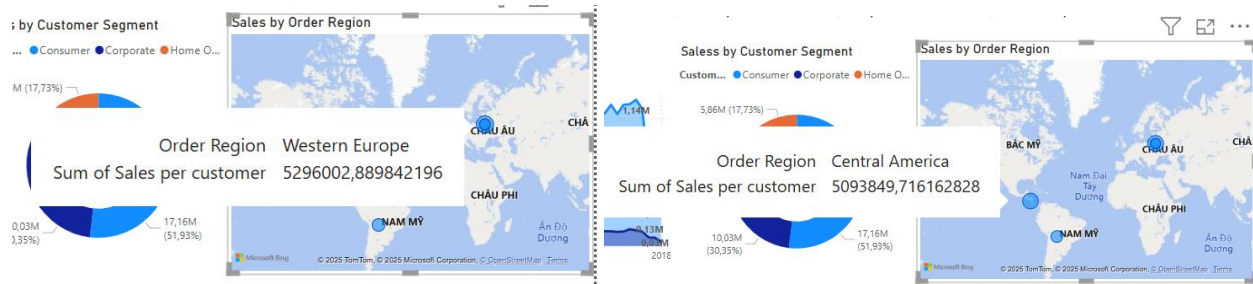
II. Visualization Process and Results

1. Sales Dashboard



From 2015 to late 2017, revenue and profit remained stable, with a profit ratio of approximately 10% compared to revenue. However, at the beginning of 2018, revenue and profit experienced a sharp decline.

- Revenue generated by the Consumer customer group accounted for more than half (51.93%), while the Corporate group (30.35%) generated nearly twice the revenue of the Home office group (17.73%).

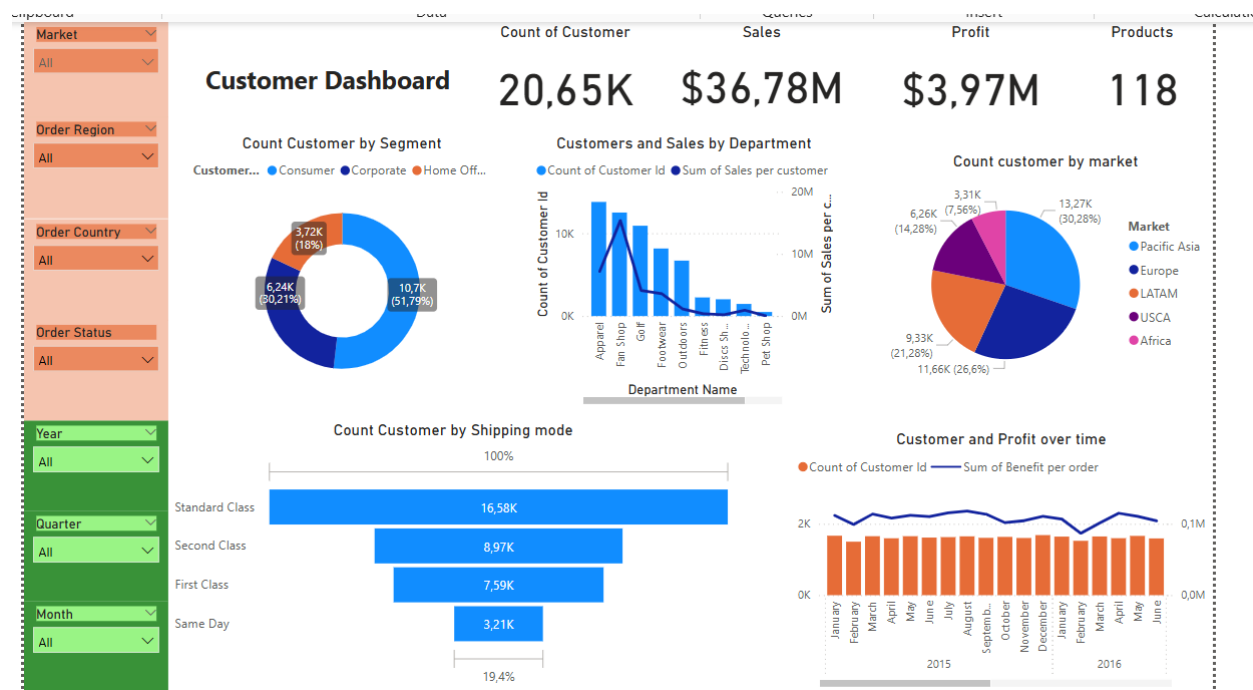


- Western Europe and Central America are the two regions generating the highest revenue compared to all other regions (accounting for 16.02% and 15.41%, respectively).

- The product generating the most revenue and profit is Field & Stream Sports Man 16 Gun Fire Safe, while the product generating the least revenue is CDs of Rock.

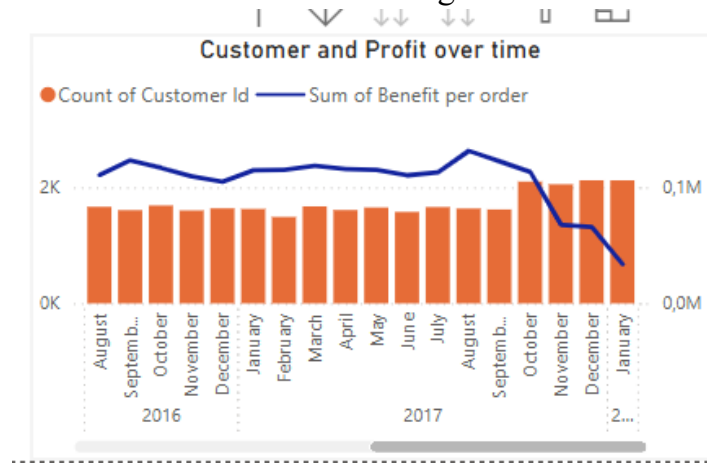
- Two markets with impressive sales (above 10M) are Europe and LATAM, but Africa leads in profit margins despite modest sales compared to other markets.

2. Customer Dashboard



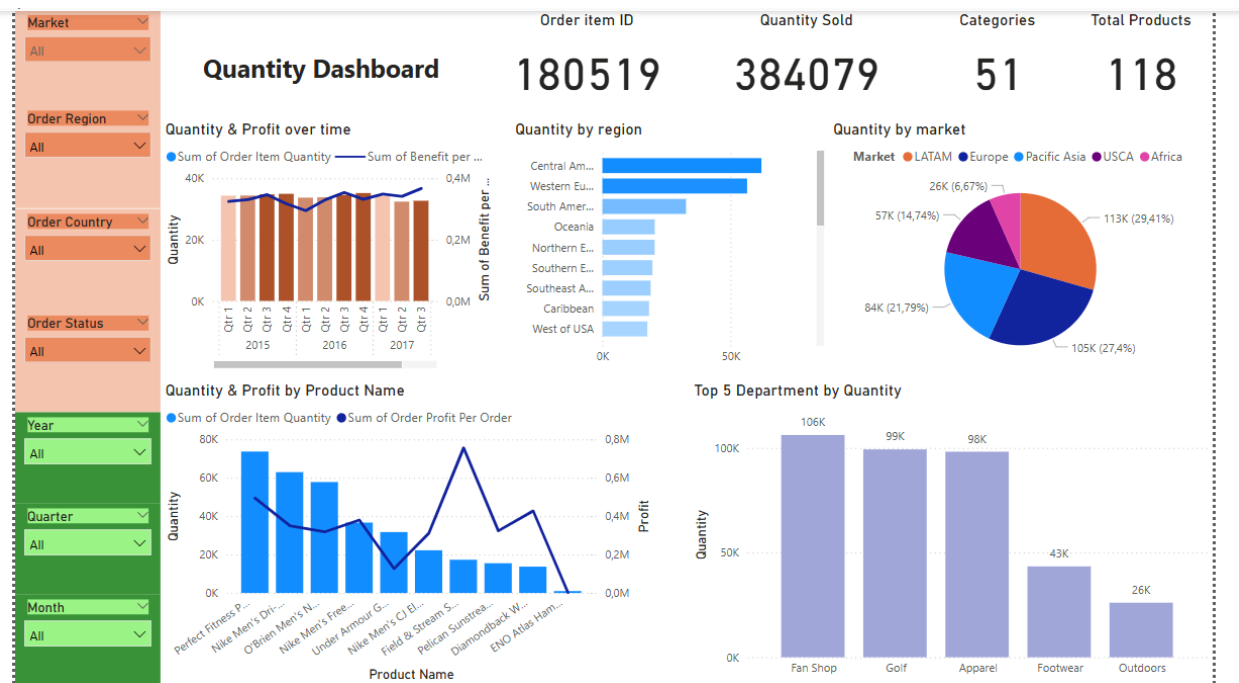
The Consumer customer group accounted for more than half (51.79%), while the Corporate group (30.21%) had nearly twice as many customers as the Home office group (18%). This correlates with the revenue distribution by customer segment shown in the "Sales Dashboard."

- Among the two departments with the largest number of customers, Apparel and Fanshop, there is an inverse correlation between the number of customers and the revenue they generate for that department. Specifically, in the Fanshop department, fewer customers created more revenue compared to the Apparel department.
- Among the two markets with the largest number of customers, besides Europe with impressive sales (as seen in the Sales Dashboard), the Pacific Asea market had more customers but did not contribute significantly to revenue.
- The number of customers choosing Standard Class and Second Class shipping modes was more than double those choosing First Class and Same Day.

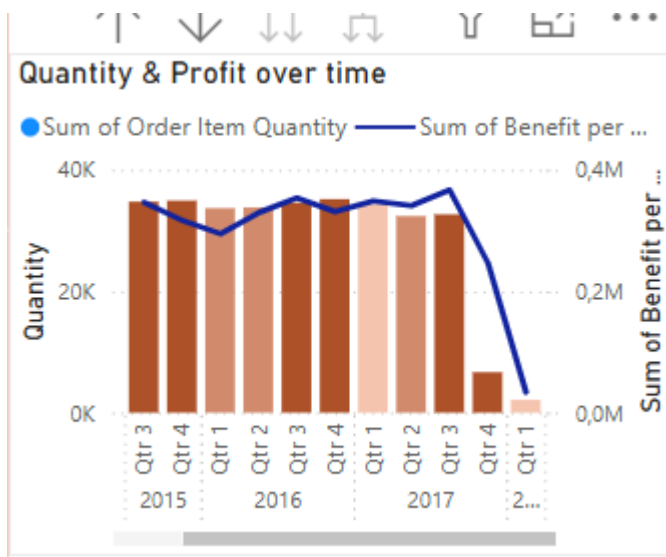


- Although customer numbers and profit remained stable over the months, from October 2017 to January 2018, customer numbers increased while profit decreased, highlighting issues with products, inventory, and the organization's delivery process.

3. Quantity Dashboard



- In 2015 and 2016, quantity and profit typically peaked in the third and fourth quarters.



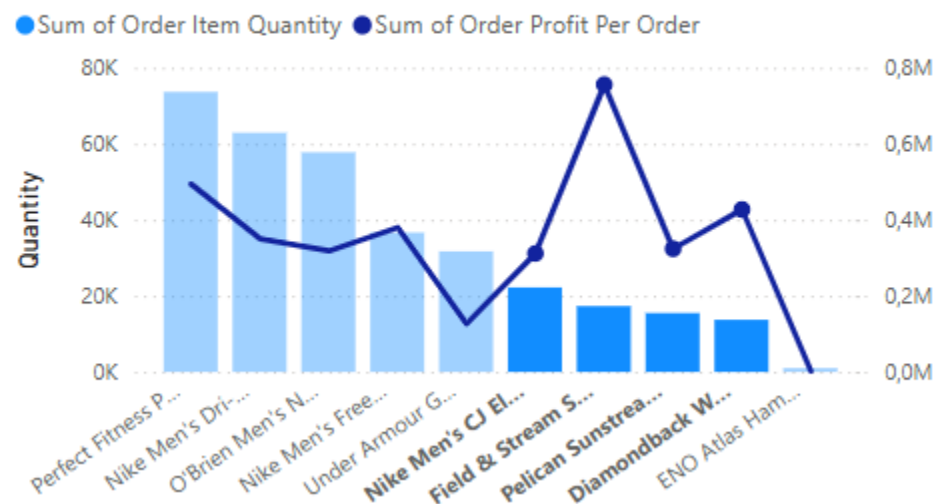
... However, in the third and fourth quarters of 2017, lower quantities led to decreased profit.

- Two regions leading in quantity are Central America and Western Europe, which are closely linked to revenue results in these regions.

- This also applies to the two markets with the highest quantities: LATAM (including Central America) and Europe (including Western Europe).

Row Labels	Sum of Order Item Quantity
Africa	
Central Africa	3700
East Africa	4048
North Africa	7155
Southern Africa	2507
West Africa	8193
Europe	
Eastern Europe	8806
Northern Europe	20402
Southern Europe	19526
Western Europe	56504
LATAM	
Caribbean	18204
Central America	62091
South America	32647
Pacific Asia	
Central Asia	1214
Eastern Asia	14359
Oceania	20430
South Asia	15624
Southeast Asia	18835
West Asia	13218
USCA	
Canada	2183
East of USA	15108
South of USA	8804
USCenter	12974
West of USA	17547
Grand Total	384079

Quantity & Profit by Product Name

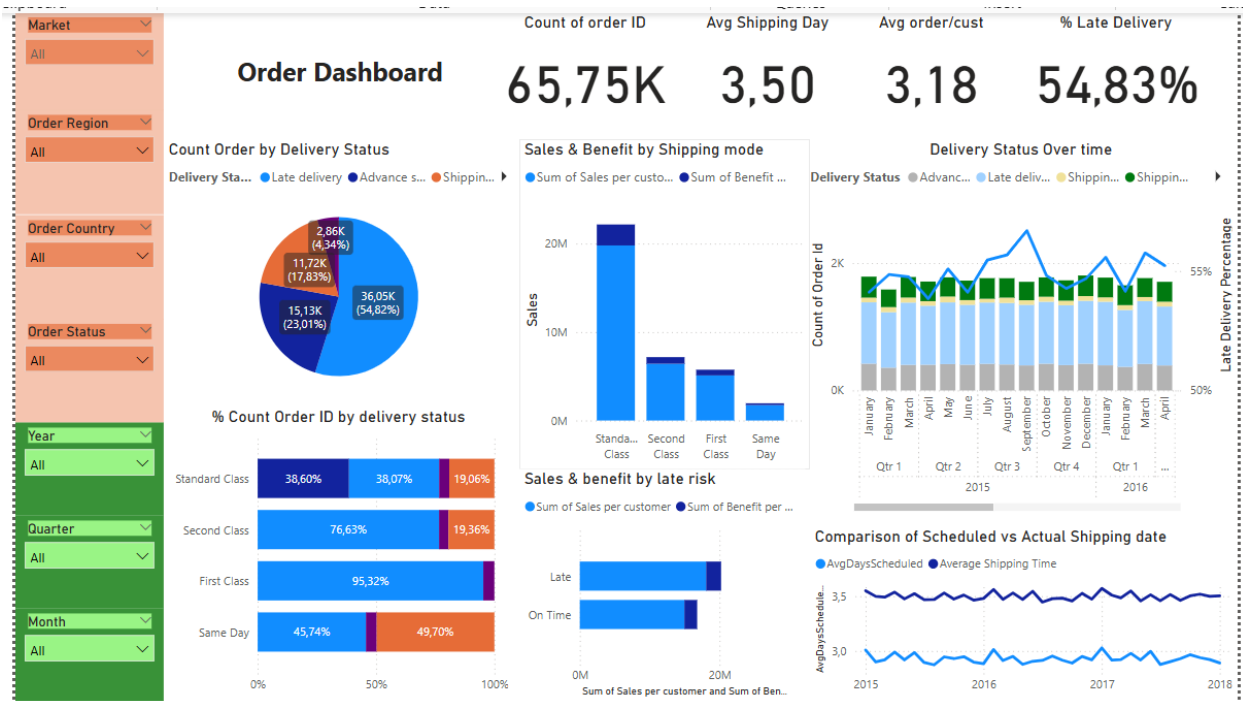


- Four products—**Nike Men's CJ Elite 2 TD Football Cleat**, **Field & Stream Sportsman 16 Gun Fire Safe**, **Pelican Sunstream 100 Kayak**, and **Diamondback**

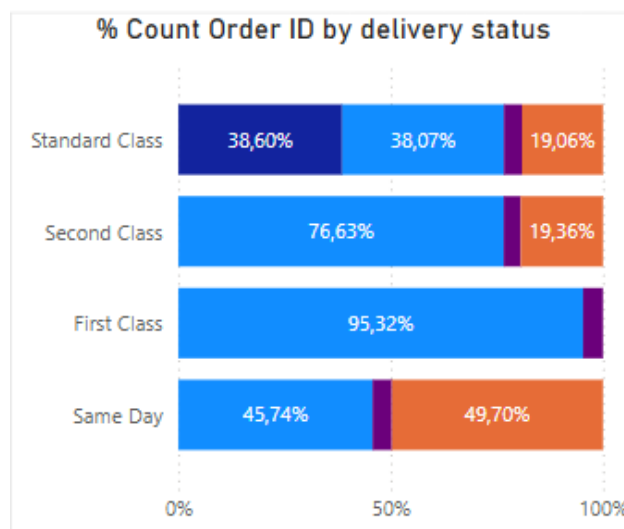
Women's Serene Classic Comfort Bi—had relatively low quantities but generated impressive profits (ranging from 0.3M to 0.8M).

- The three departments with excessively high quantities—Fanshop, Golf, and Apparel—each had double the quantity of the fourth department, Footwear.

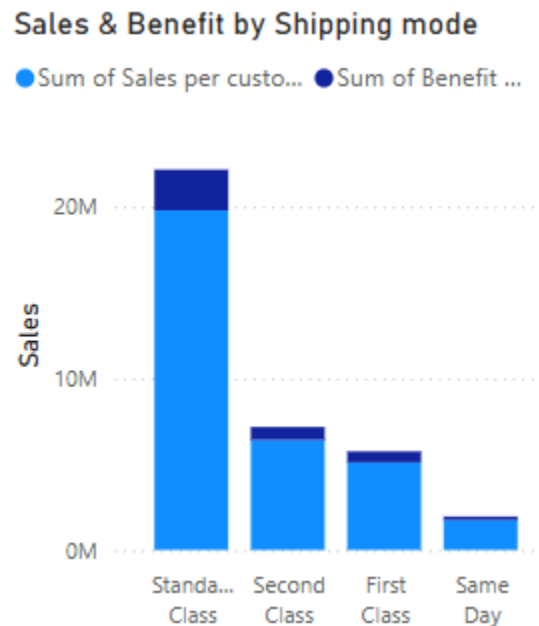
4. Order Dashboard



Firstly, late deliveries still accounted for a high proportion compared to other delivery statuses. Specifically, regarding shipping modes:



It can be seen that in the shipping mode of First Class and Second Class, the rate of late delivery is very high. It is necessary to improve and reduce the rate of late delivery in Same Day and especially Standard Class. The reasons are:



As the chart above shows, Standard Class still brings in much more revenue than other shipping modes. All modes need to improve their delivery speed, and Standard needs to improve the most if it doesn't affect revenue.

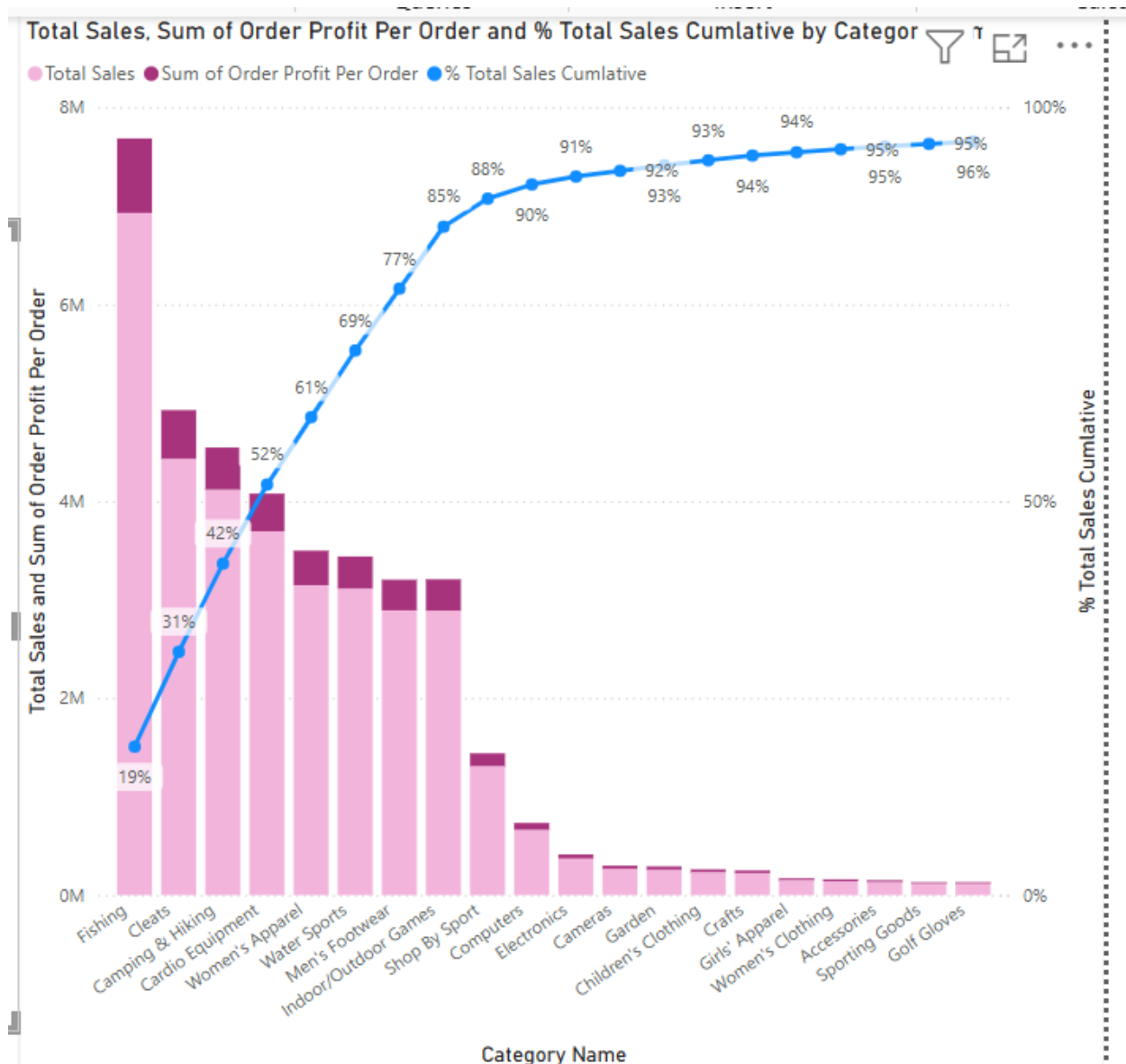


Another thing to note is that the revenue from late delivery is still higher than on-time delivery, which needs to be improved to increase positive customer experience and encourage customers to return.

5. Khám phá thêm từ dữ liệu

Prime time and Top category								
Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
23:00	390	394	395	393	393	391	397	2753
22:00	389	383	395	397	387	382	399	2732
21:00	393	391	387	397	378	392	388	2726
20:00	386	387	390	381	397	385	399	2725
19:00	386	386	395	393	394	393	393	2740
18:00	391	392	390	397	388	395	405	2758
17:00	392	385	390	397	397	385	392	2738
16:00	376	390	394	401	394	410	388	2753
15:00	394	378	392	387	397	394	397	2739
14:00	398	384	386	386	397	400	394	2745
13:00	389	393	382	399	382	389	396	2730
12:00	382	395	387	389	392	401	381	2727
11:00	398	400	386	388	392	391	395	2750
10:00	394	393	379	394	399	390	391	2740
09:00	386	390	397	396	395	387	375	2726
08:00	391	388	383	373	402	389	388	2714
07:00	399	390	402	387	396	387	381	2742
06:00	377	395	400	383	386	392	394	2727
05:00	386	397	399	398	394	398	397	2769
04:00	399	391	390	381	392	397	390	2740
03:00	385	392	396	395	391	378	390	2727
02:00	403	397	392	397	380	384	400	2753
01:00	390	390	393	388	388	399	389	2737
00:00	393	387	395	400	384	391	411	2761
Total	9367	9368	9395	9397	9395	9400	9430	65752

Regarding the golden hour, the initial idea was to create an information field about the current hour at the time of the transaction (order date). From there, create a matrix to count the order frequency in each time frame for each day of the week. In the above matrix, we see that the time frames 02:00 on Sunday, 07:00 on Tuesday, 16:00 on Friday and 00:00 on Saturday are the ideal time frames to publish a promotion program, advertise accompanying products (when this data set is taken from the e-commerce platform) to increase the effectiveness of reaching customers.



First, sort the categories in descending order of sales, then calculate the percentage of cumulative revenue through each category (already sorted) -> find the categories that bring in the most revenue for the company

Create the Running Total Sales measure:

```

1 Running total sales =
2 calculate([Total Sales],
3           topn([Rank],
4               all(DataCoSupplyChainDataset[Category Name]),
5               [Total Sales]
6           )
7       )

```

Total Sales:

```
ture | Formatting | Total Sales All  
1 Total Sales = sum(DataCoSupplyChainDataset[Sales])
```

The Parato (% of cumulative revenue) would be the following calculation:

```
1 % Total Sales Cumulative =  
2 divide ([Running total sales],[Total Sales All],0)  
The time and top category
```

With a pareto level of 80%, we can identify the following product categories: Fishing, Cleats, Camping & Hiking, Cardio Equipment, Women's Apparel, Water Sports, Men's Footwear, which bring in 80% of the company's revenue. Special attention and promotion of production and business in these categories is needed to optimize revenue and profit.