MONGODB E-COMMERCE DATA ANALYSIS

SCHEMA DESIGN

CUSTOMERS

Customers collection uses an **embedded schema** for its address field. This is because the address details (street, city, state) are tightly coupled with the customer and are likely to always be accessed together.

PRODUCTS

The Products collection does not reference other collections directly in this design. It represents standalone data about products

ORDERS

The Orders collection **references** the customers collection through the customer_id field. The orders collection references the customers collection through the customer_id field.

ORDERS ITEMS

The Order_items collection **references** both the Orders collection through the order_id field and the Products collection through the product_id field.
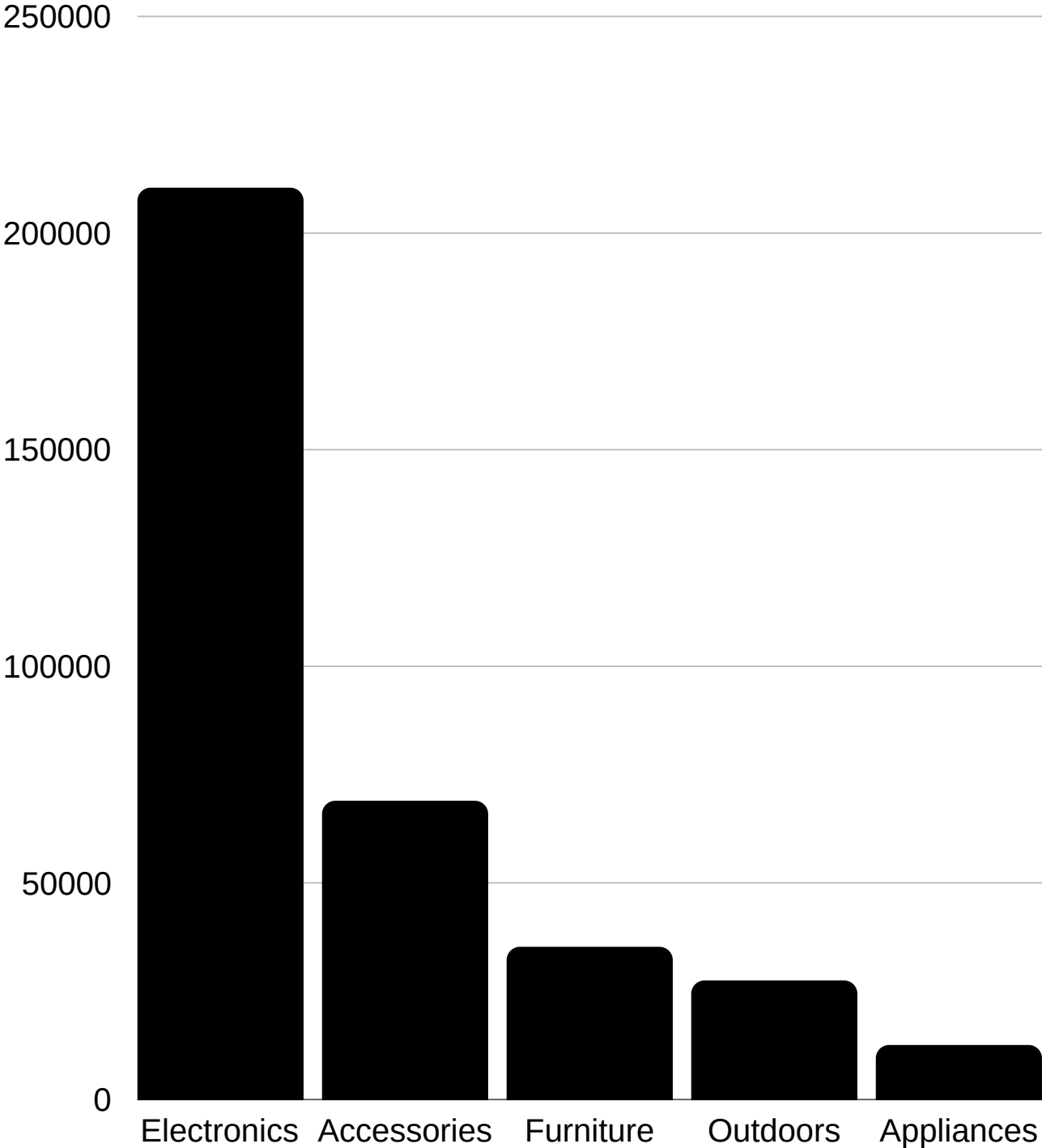
Which states have the highest number of customers?
  Use $group to count customers by state.
  Sort the results in descending order.

The analysis identifies the product categories generating the highest revenue in descending order:
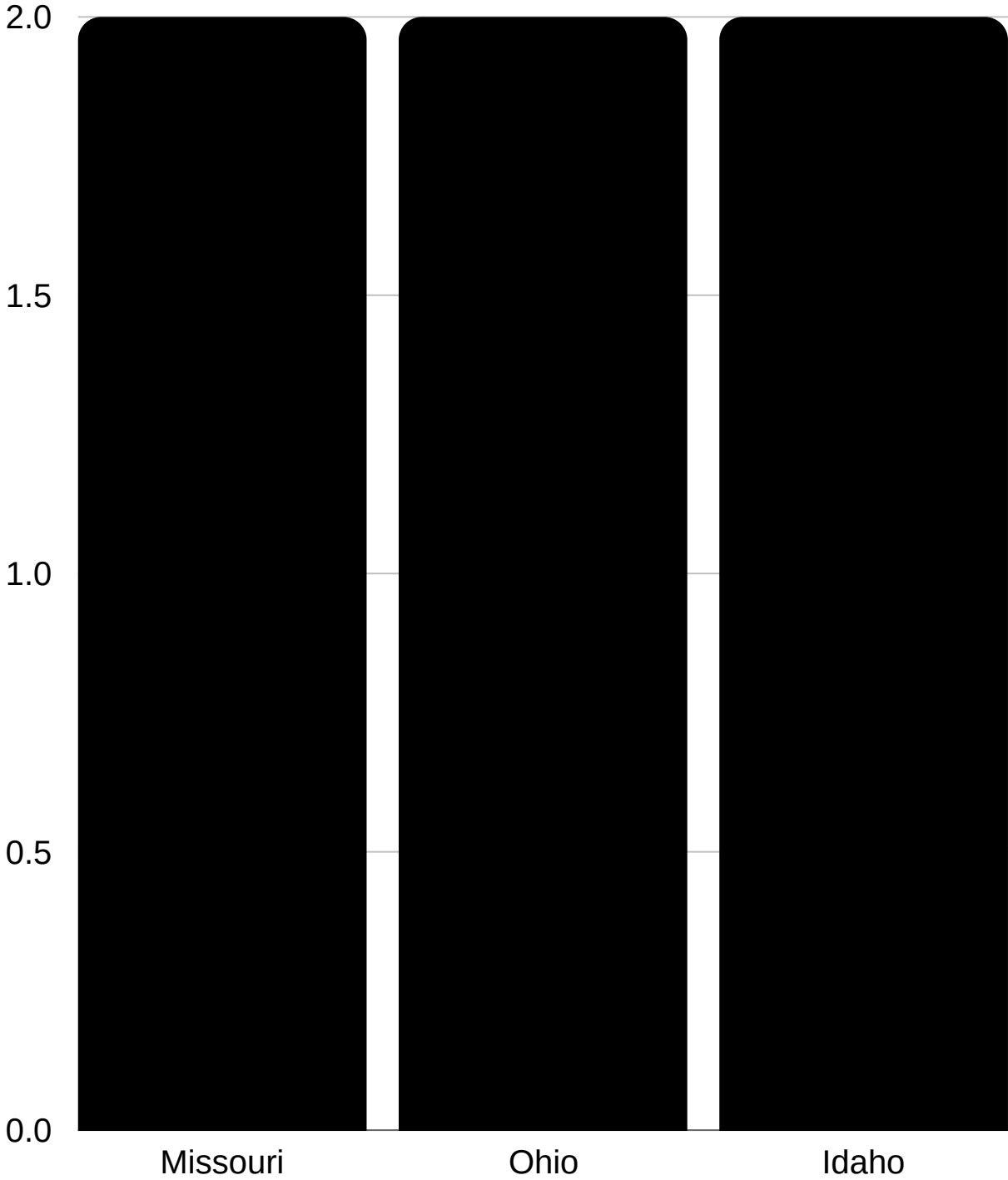1.   Electronics: $210,480.24 (highest revenue generator)
2.   Accessories: $68,956.55
3.   Furniture: $35,245.73
4.   Outdoors: $27,474.00
5.   Appliances: $12,580.55

QUERIES AND RESULT

Which states have the highest number of customers?
Use $group to count customers by state.
Sort the results in descending order.

The analysis reveals the states with the highest number of
customers, all having an equal count:
1.
2.
3.

Missouri: 2 customers
Ohio: 2 customers
Idaho: 2 customers

What are the top 3 most expensive products sold in each order?

The analysis identifies the top products by price for each order, showing the most expensive items. Here's a glimpse of the findings:

1. Order 402:
   - Headphones: $200
   - Earbuds: $100
2. Order 404:
   - Refrigerator: $1000
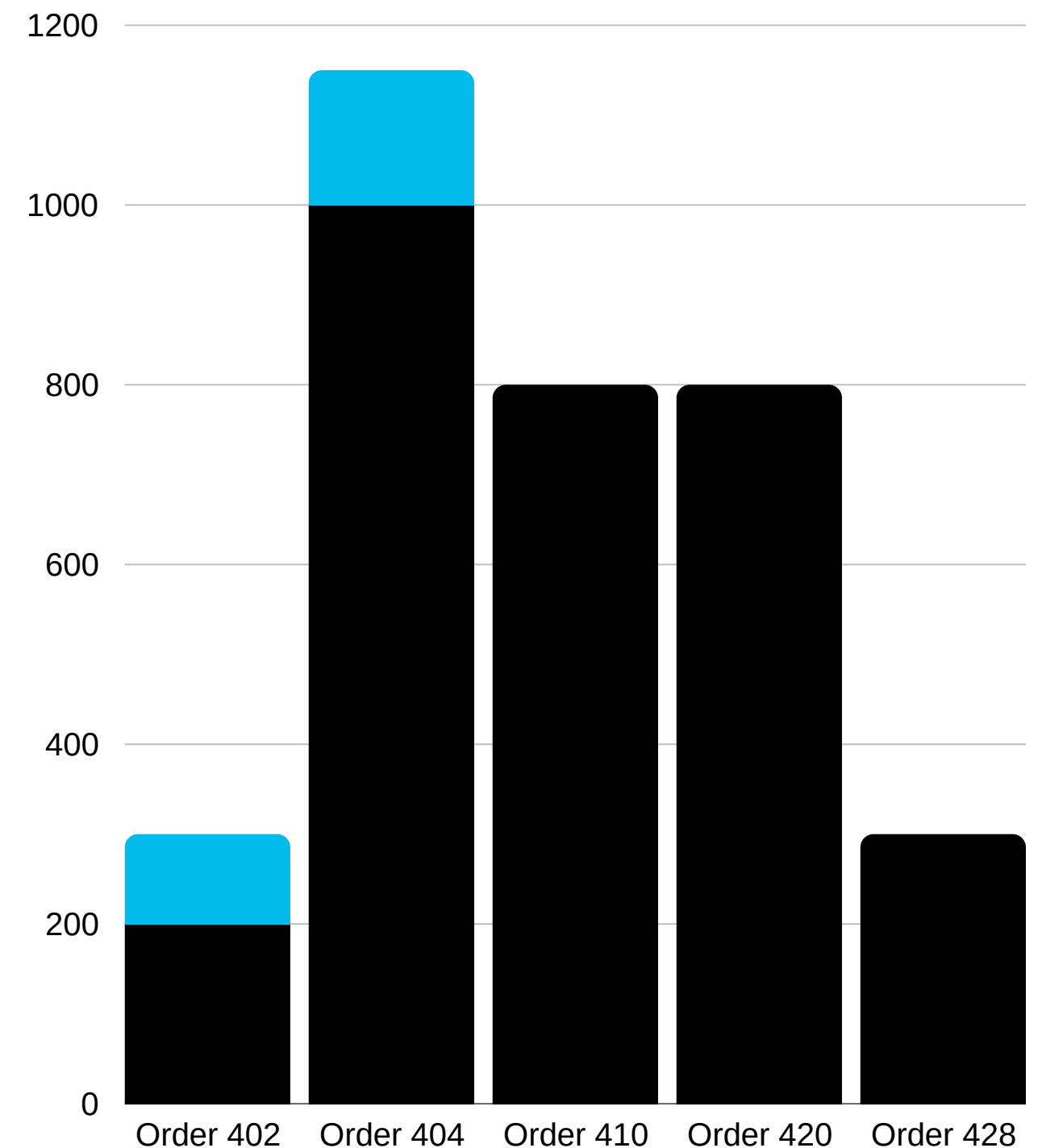   - Microwave: $150
3. Order 410:
   - Smartphone: $800
4. Order 420:
   - Smartphone: $800
5. Order 428:
   - Monitor: $300

... and so on, for all orders in the dataset.

CONCLUSION

Electronics generate the highest revenue, with categories like Accessories and Furniture trailing behind. Missouri, Ohio, and Idaho have the highest number of customers, each with two. Smartphones are consistently among the top expensive products sold in each order, along with items like refrigerators and TVs.

THANK YOU!