Key Insights and Trends from Customer Data

Data Analysis for PRIMEZ Router Orders and Returns

By Esinam Adoboli

Welcome to the PRIMEZ Data presentation. This visual presentation focuses on routers, and the keys to achieving excellence in providing routers to customers.

In an industry where customer satisfaction is paramount, the organization plays a crucial role in delivering exceptional experiences.

Introduction

This visual presentation focuses on the 3 router spread sheet attached to the presentation. This is a sample dataset. It includes customer data, order information, and router information. There are many routers being returned and the company is interested in finding out more about this and finding solutions.

The presentation will include:

- *The total number of orders*
- *How many of each router was ordered*
- *The most popular router ordered*
- *The reason routers were returned*
- *Percentage of returned routers*
- *The states with the least sales*
- *State with the most returned routers*
- *The most and least frequent return type*

Number of Orders (Sample Study)

499

- The sample contained 499 orders.
- Embracing technology solutions such as inventory management software to streamline operations and enhance the guest experience.
- Leverage data analytics to gain insights into customer preferences, track performance metrics, and make informed business decisions.

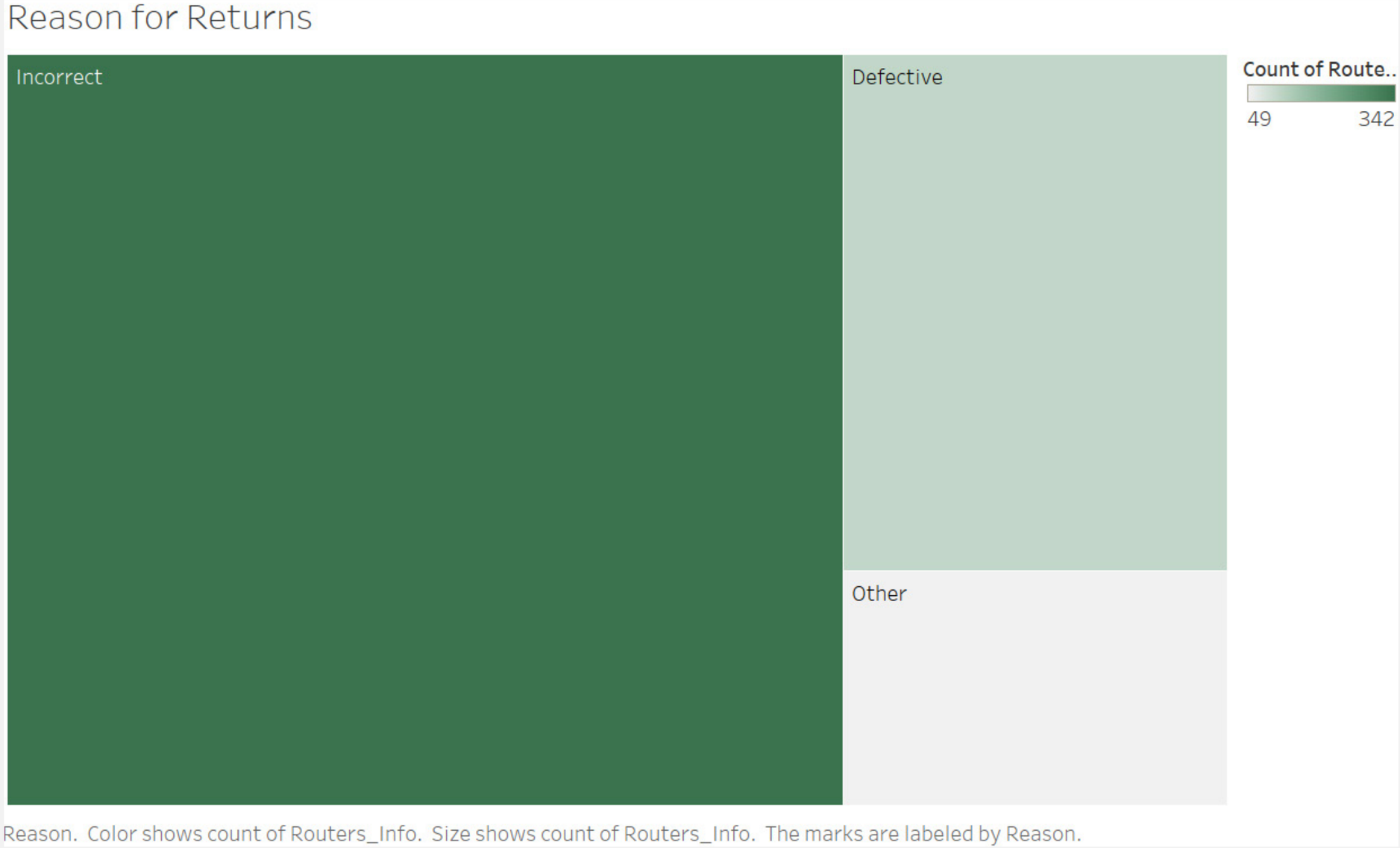
Routers Ordered

Description	Count of Description
Basic Switch 10/100/1000 BaseT 48 port	110
Enterprise Switch 40GigE SFP+ 48 port	83
Basic Switch 10/100/1000 BaseT 8 port	56
Enterprise Switch 10GigE SFP+ 24 Port	55
Enterprise Switch 10GigE SFP+ 48 port	55
Advanced Switch 10GigE Copper 24 port	55
Advanced Switch 10 GigE Copper/Fiber 44 port copper 4 port fiber	55
Enterprise Switch 40GigE SFP+ 24 port	29
Basic Switch 10/100/1000 BaseT 24 port	1
Grand Total	**499**

- *This table shows how many of each router was ordered.*
- *The least popular router made up 0.2% of total sales*
- *Please note that the only routers shown are routers which were returned.*
- *The Basic Switch 10/100/1000 BaseT 24 port router may be popular and have fewer defects. More data would be needed to determine this.*

Most Popular Router

The most popular router made up 22% of all orders


Reason for Returns
Incorrect
Defective
Other
Count of Route..
49
342
Reason. Color shows count of Routers_Info. Size shows count of Routers_Info. The marks are labeled by Reason.

Reason for returns

There were three possible reasons for the return of routers.

DEFECTIVE

routers made up

21.6%

of returned routers.

OTHER

possible reasons made up

9.8%

of returned routers

INCORRECT

routers made up

68.5%

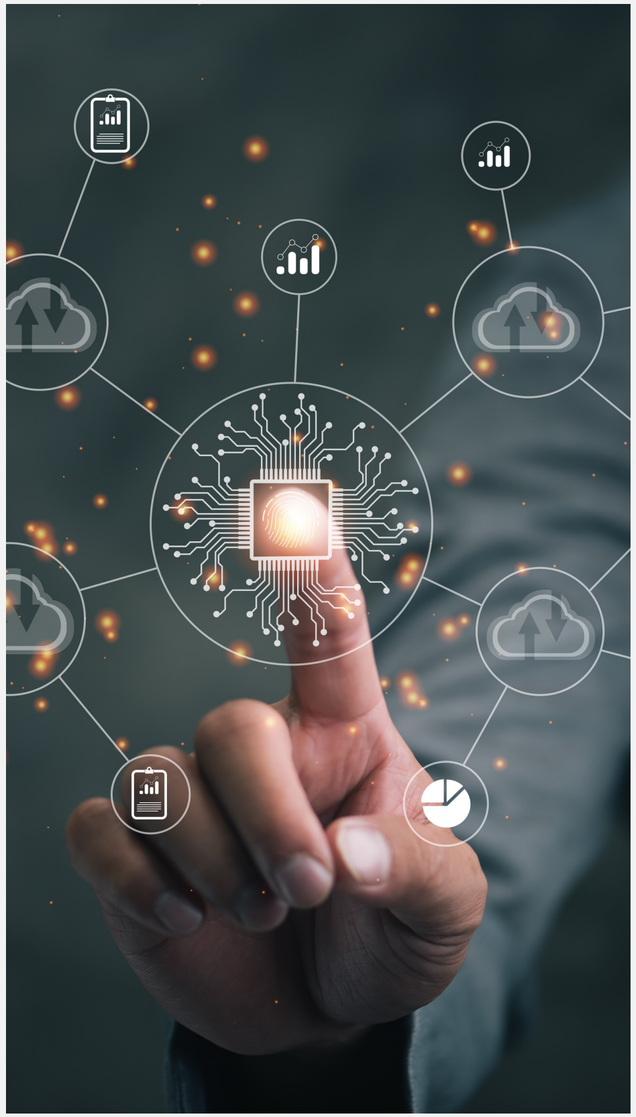
of returned routers

Reason for returns

There may be problems with the ordering process.

This may be the customer not understanding their own needs when ordering the equipment.

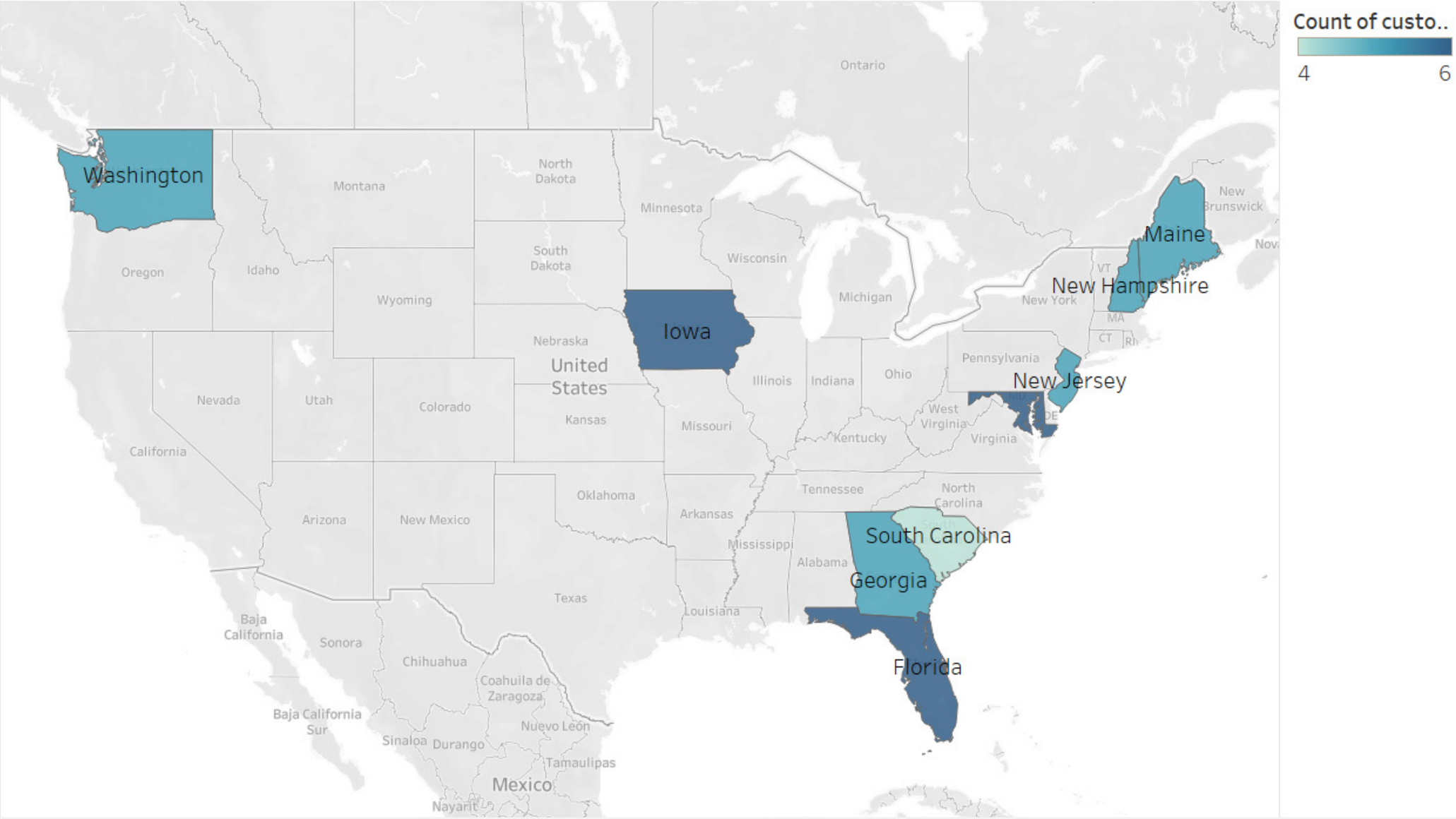
The wrong equipment could be sent out during the shipping process.



We would need to observe the process from begining to end. and collect further data.

This would save the company money in terms of return shipping fees, employee labor, and customer satisfaction

States with the least sales

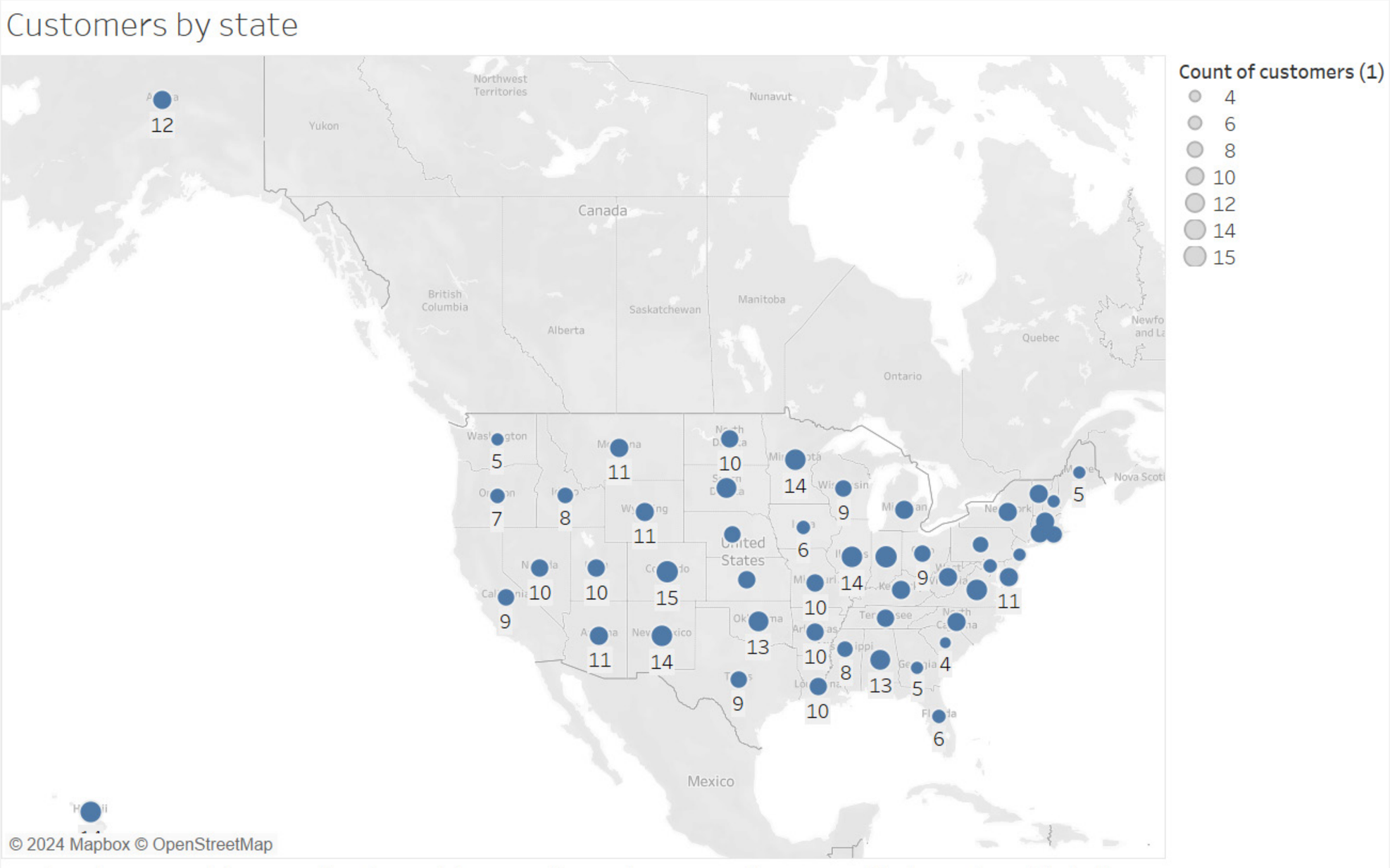


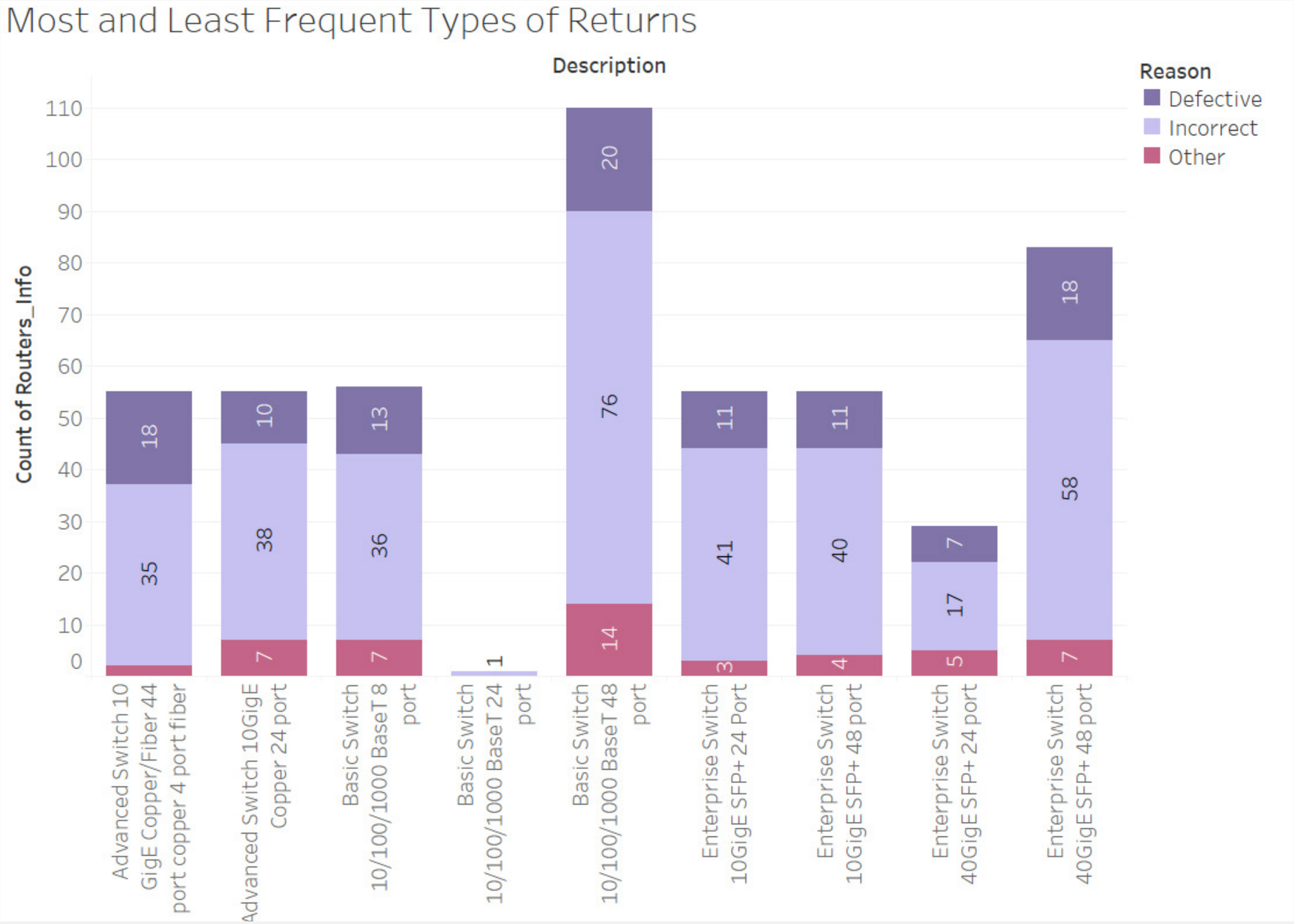
States With The Most Returned Routers

&

- Colorado and Indiana were the states with the most returned routers.
- Colorado had 11 routers returned due to incorrect routers. 2 were defective, and there were 2 for other reasons
- Indiana had more defective routers mailed out

Exceeding Expectations *PRIMEZ.*

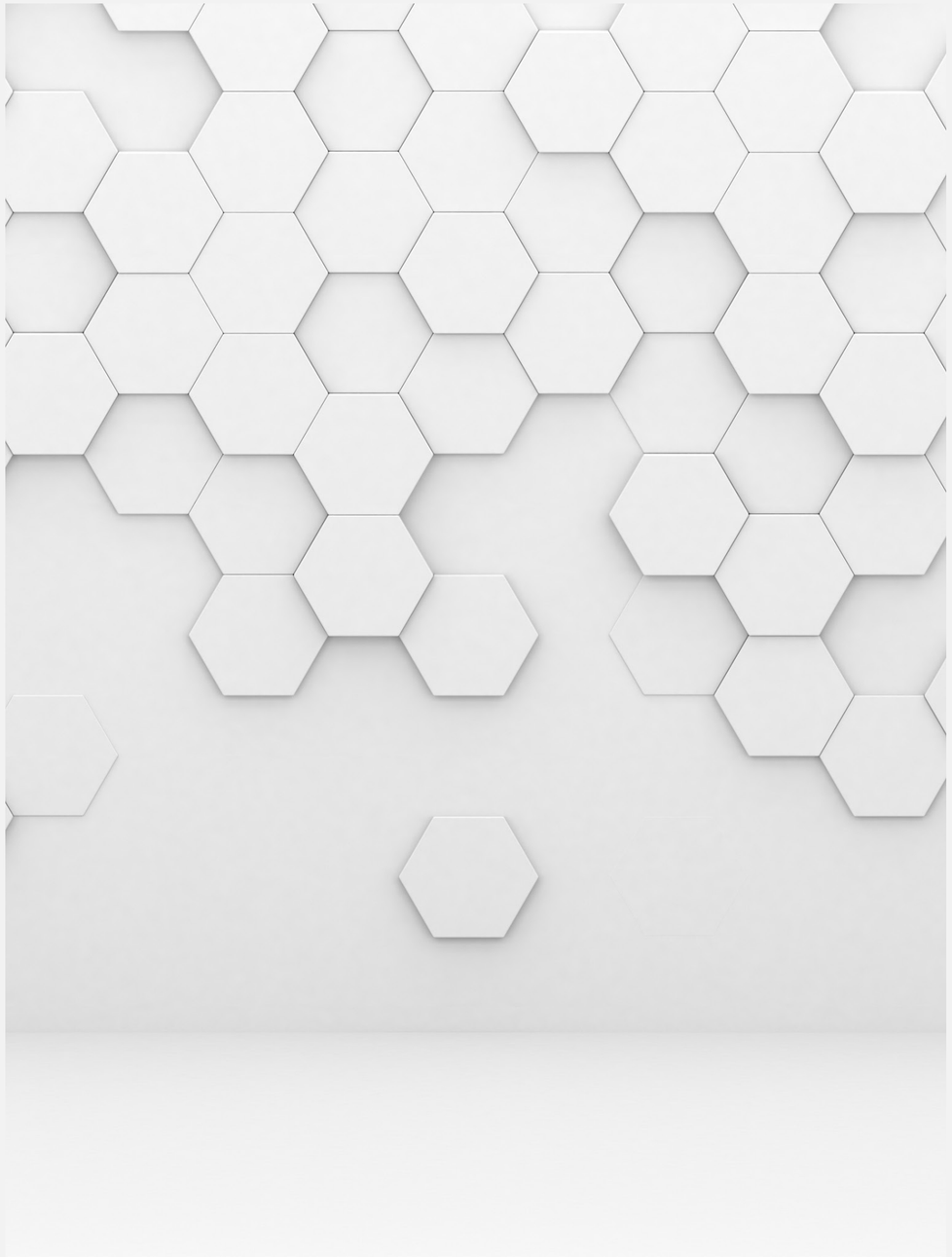



Most and Least Frequent Types of Returns
Description
Reason
Defective
Incorrect
Other
Count of Routers_Info
110
100
90
80
70
60
50
40
30
20
10
0
18
35
7
10
38
7
13
36
7
1
20
76
14
11
41
3
11
40
4
7
17
5
18
58
7
Advanced Switch 10 GigE Copper/Fiber 44 port copper 4 port fiber
Advanced Switch 10GigE Copper 24 port
Basic Switch 10/100/1000 BaseT 8 port
Basic Switch 10/100/1000 BaseT 24 port
Basic Switch 10/100/1000 BaseT 48 port
Enterprise Switch 10GigE SFP+ 24 Port
Enterprise Switch 10GigE SFP+ 48 port
Enterprise Switch 40GigE SFP+ 24 port
Enterprise Switch 40GigE SFP+ 48 port

Conclusion

This presentation was an analysis of the 3 router data presented by PRIMEZ.
The sample dataset contained 499 orders.
The company was interested in finding out the reason routers were being returned.
Based on the data, it was found that incorrect routers were being sent out the majority of the time.
Further studies would need to be done to find out more including why incorrect routers are being sent out.

Codes to Find Answers to FAQs



The CEO asked some very important questions during this project.. The answers to these questions can change, what we have done is created SQL statements that can be used at any time:

SQL Codes for FAQs

```sql
/*Number of orders from customers by state*/
SELECT customers.State, COUNT(orders.OrderID) AS NumberOfOrders
FROM primez.customers AS customers
JOIN primez.orders AS orders ON customers.CustomerID = orders.CustomerID
GROUP BY customers.State;
```

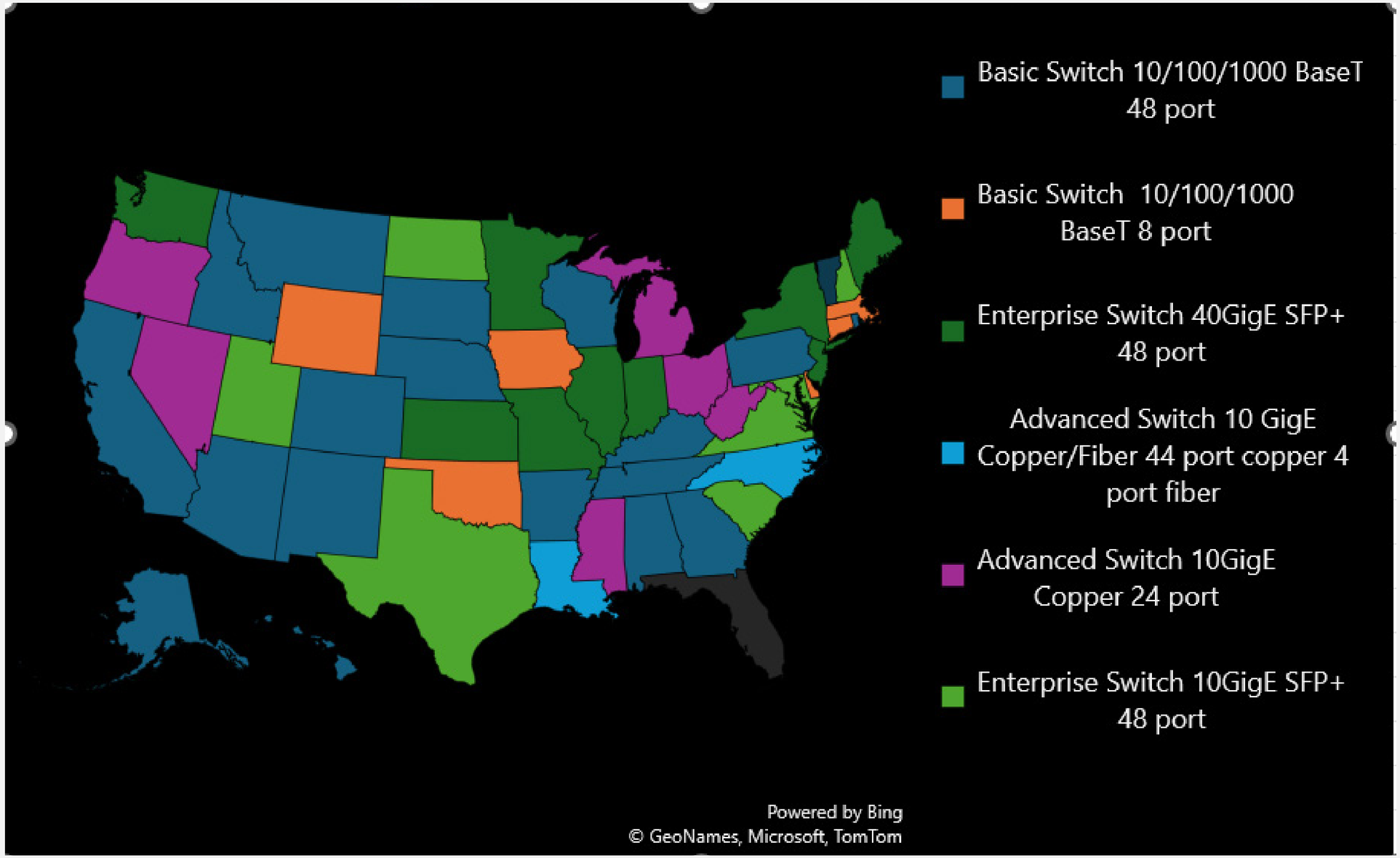
```sql
/*Most popular router by state*/
SELECT customers.State, orders.Description AS MostPopularRouter, COUNT(orders.Description) AS RouterCount
FROM primez.customers AS customers
JOIN primez.orders AS orders ON customers.CustomerID = orders.CustomerID
GROUP BY customers.State, orders.Description
ORDER BY customers.State, RouterCount DESC;
```

```sql
/*Router type that was returned the least*/
SELECT orders.Description AS LeastReturnedRouter, COUNT(orders.Description) AS ReturnCount
FROM primez.orders AS orders
JOIN primez.router_info AS router_info ON orders.OrderID = router_info.OrderID
WHERE router_info.Step = 'Complete'
GROUP BY orders.Description
ORDER BY ReturnCount ASC
LIMIT 1;
```

Number of orders from customers by state

Utah	10
Texas	9
Nebraska	9
Delaware	11
Montana	11
Connecticut	12
Virginia	14
Hawaii	14
Oklahoma	13
Michigan	11
Ohio	9
Oregon	7
Colorado	15
Idaho	8
Vermont	12
Kentucky	11
Wyoming	11
West Virginia	11
New Jersey	5
Missouri	10
Mississippi	8
Iowa	6
Tennessee	10
Louisiana	10
South Dakota	13
Rhode Island	9
Minnesota	14
North Dakota	10
Kansas	10
California	9
Massachusetts	12
Washington	5
Alabama	13
North Carolina	11
New York	12
Alaska	12
Pennsylvania	8
Arizona	11
New Mexico	14
Arkansas	10
Nevada	10
Maine	5
Maryland	6
South Carolina	4
Illinois	14
Florida	6
Wisconsin	9
New Hampshire	5
Indiana	15
Georgia	5

Most popular router by state



LEAST RETURNED ROUTER

BASIC SWITCH

10/100/1000
BASET 24PORT

SQL Codes for FAQs

```sql
/*Query with the term GROUP BY: number of customers per state*/
SELECT customers.State, COUNT(customers.CustomerID) AS CustomerCount
FROM primez.customers AS customers
GROUP BY customers.State;
```

```sql
/*Query with the term HAVING: count of customers by state, which have more than 9 members*/
SELECT customers.State, COUNT(customers.CustomerID) AS CustomerCount
FROM primez.customers AS customers
GROUP BY customers.State
HAVING CustomerCount > 9;
```

```sql
/*Query with the term DISTINCT COUNT: unique customer count*/
SELECT COUNT(DISTINCT customers.CustomerID) AS UniqueCustomerCount
FROM primez.customers AS customers;
```

SQL Codes for FAQs

```sql
/*Query with the term NOT: show entries that are not basic from the description column*/
SELECT *
FROM primez.orders
WHERE Description NOT LIKE '%Basic%';
```

```sql
/*Query with the term BUT (using AND to simulate "but")*/
SELECT *
FROM primez.router_info
WHERE Step = 'Complete' AND Reason = 'Incorrect';
```

ADVANCED QUERIES WITH JOIN

```sql
/*List of all orders along with customer details*/
SELECT orders.OrderID, customers.FirstName, customers.LastName, orders.Description
FROM primez.orders AS orders
JOIN primez.customers AS customers ON orders.CustomerID = customers.CustomerID;
```

```sql
/*Number of returns by customer state*/
SELECT customers.State, COUNT(router_info.RMAID) AS ReturnCount
FROM primez.customers AS customers
JOIN primez.orders AS orders ON customers.CustomerID = orders.CustomerID
JOIN primez.router_info AS router_info ON orders.OrderID = router_info.OrderID
WHERE router_info.Step = 'Complete'
GROUP BY customers.State;
```

```sql
/*Total number of routers by type in each city*/
SELECT customers.City, orders.Description, COUNT(orders.OrderID) AS TotalRouters
FROM primez.customers AS customers
JOIN primez.orders AS orders ON customers.CustomerID = orders.CustomerID
GROUP BY customers.City, orders.Description;
```

ADVANCED QUERIES WITH JOINS

```sql
/*Customer details for those who returned routers*/
SELECT customers.CustomerID, customers.FirstName, customers.LastName, customers.City
FROM primez.customers AS customers
JOIN primez.orders AS orders ON customers.CustomerID = orders.CustomerID
JOIN primez.router_info AS router_info ON orders.OrderID = router_info.OrderID
WHERE router_info.Step = 'Complete';
```

```sql
/*List of router types and corresponding return reasons*/
SELECT orders.Description AS RouterType, router_info.Reason AS ReturnReason, COUNT(router_info.RMAID) AS ReasonCount
FROM primez.orders AS orders
JOIN primez.router_info AS router_info ON orders.OrderID = router_info.OrderID
GROUP BY orders.Description, router_info.Reason;
```

Thank you!

Thank you for taking the time to watch this presentation