Shopping trends

The following case study was created through artificial intelligence, using a set of public data about consumer behavior and purchasing habits.

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Scenario: You are a data analyst and you work for an online fashion store called 'Fashion Trend' The company is interested in understanding and improving the online shopping experience of its customers. To achieve this objetive, they have been gathering data about consumer behavior and purchasing habits from their platform.

To reach this, I will:

Carry out an exploratory analysis of the data to understand general trends and purchasing patterns.

Divide customers into groups based on their purchasing habits and preferences, in order to perform segmentation.

Use review rating to evaluate customer satisfaction and its relationship with other factors.

Analyze the effectiveness of discounts and propose future strategies.

Identify areas of improvement in the shopping experience, such as shipping methods and product recommendations.

Presentation outline

General trends

Gender segmentation

Rating review

Discounts

Final recommendations
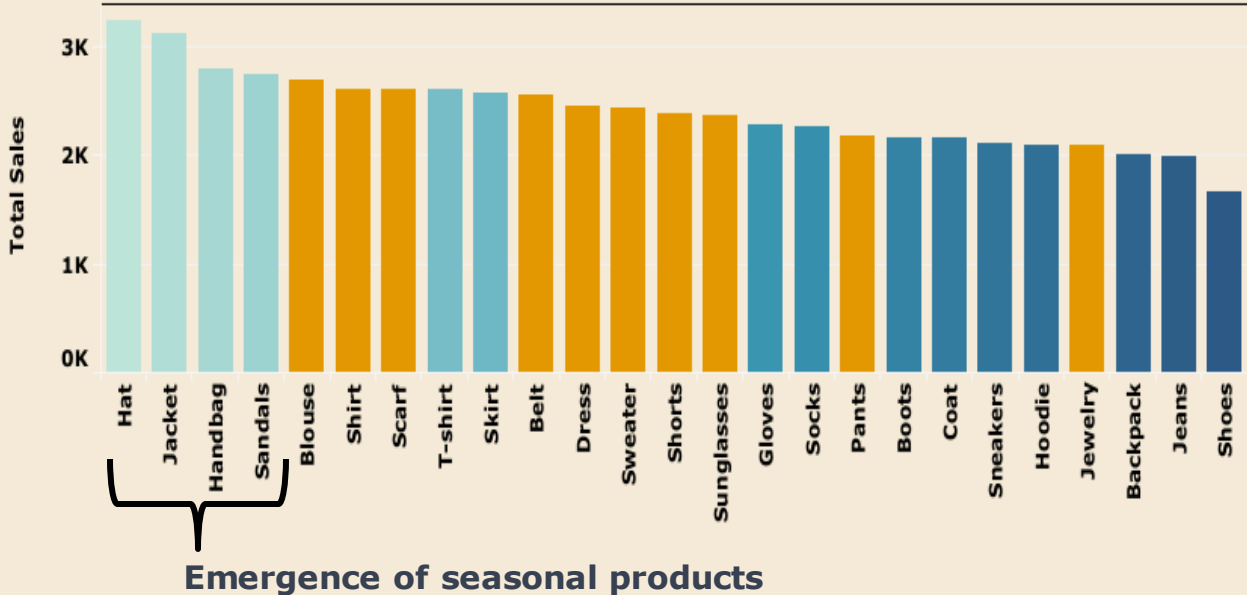
GENERAL TRENDS

These products are, in general, the best seller.

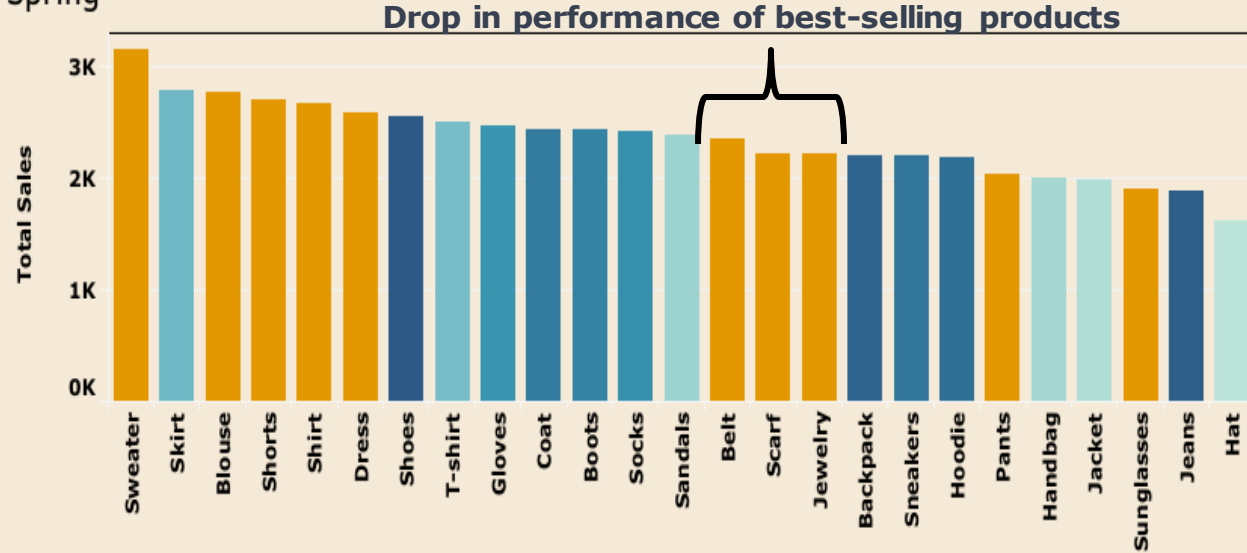We will see how they behave through the different seasons to compare their performance.

Top 10 best-selling products of the year

Product	Value
Blouse	10.410
Shirt	10.332
Dress	10.320
Pants	10.090
Jewelry	10.010
Sunglasses	9.649
Belt	9.635
Scarf	9.561
Sweater	9.462
Shorts	9.433

Seasonal Analysis: Product Sales Throughout the Year

This dashboard presents the sales of each product during different seasons, sorted by highest to lowest revenue.

The top 10 best-selling products of the year are highlighted in orange.

Autumn

Total Sales — Hat, Jacket, Handbag, Sandals, Blouse, Shirt, Scarf, T-shirt, Skirt, Belt, Dress, Sweater, Shorts, Sunglasses, Gloves, Socks, Pants, Boots, Coat, Sneakers, Hoodie, Jewelry, Backpack, Jeans, Shoes

Emergence of seasonal products

Spring

Drop in performance of best-selling products

Total Sales — Sweater, Skirt, Blouse, Shorts, Shirt, Dress, Shoes, T-shirt, Gloves, Coat, Boots, Socks, Sandals, Belt, Scarf, Jewelry, Backpack, Sneakers, Hoodie, Pants, Handbag, Jacket, Sunglasses, Jeans, Hat

Summer

Total Sales — Jewelry, Pants, Shoes, Backpack, Scarf, Dress, Blouse, Coat, Socks, Boots, Sunglasses, Belt, Hat, Shorts, Sandals, Sneakers, Handbag, Shirt, Jeans, Jacket, Gloves, Hoodie, T-shirt, Skirt, Sweater

Winter

Total Sales — Shirt, Sunglasses, Pants, Hoodie, Jewelry, Dress, T-shirt, Belt, Skirt, Jacket, Sweater, Blouse, Hat, Shoes, Sneakers, Socks, Coat, Shorts, Handbag, Boots, Gloves, Scarf, Sandals, Jeans, Backpack

Payment methods

PayPal		677
Credit Card		671
Cash		670
Debit Card		636
Venmo		634
Bank Transfer		612

GENERAL TRENDS

- These are all the payment methods sorted by the most used to the least used.

- We will see which of these is the most used in each state, to recommend future discounts and promotions.

Map of State Payment Methods

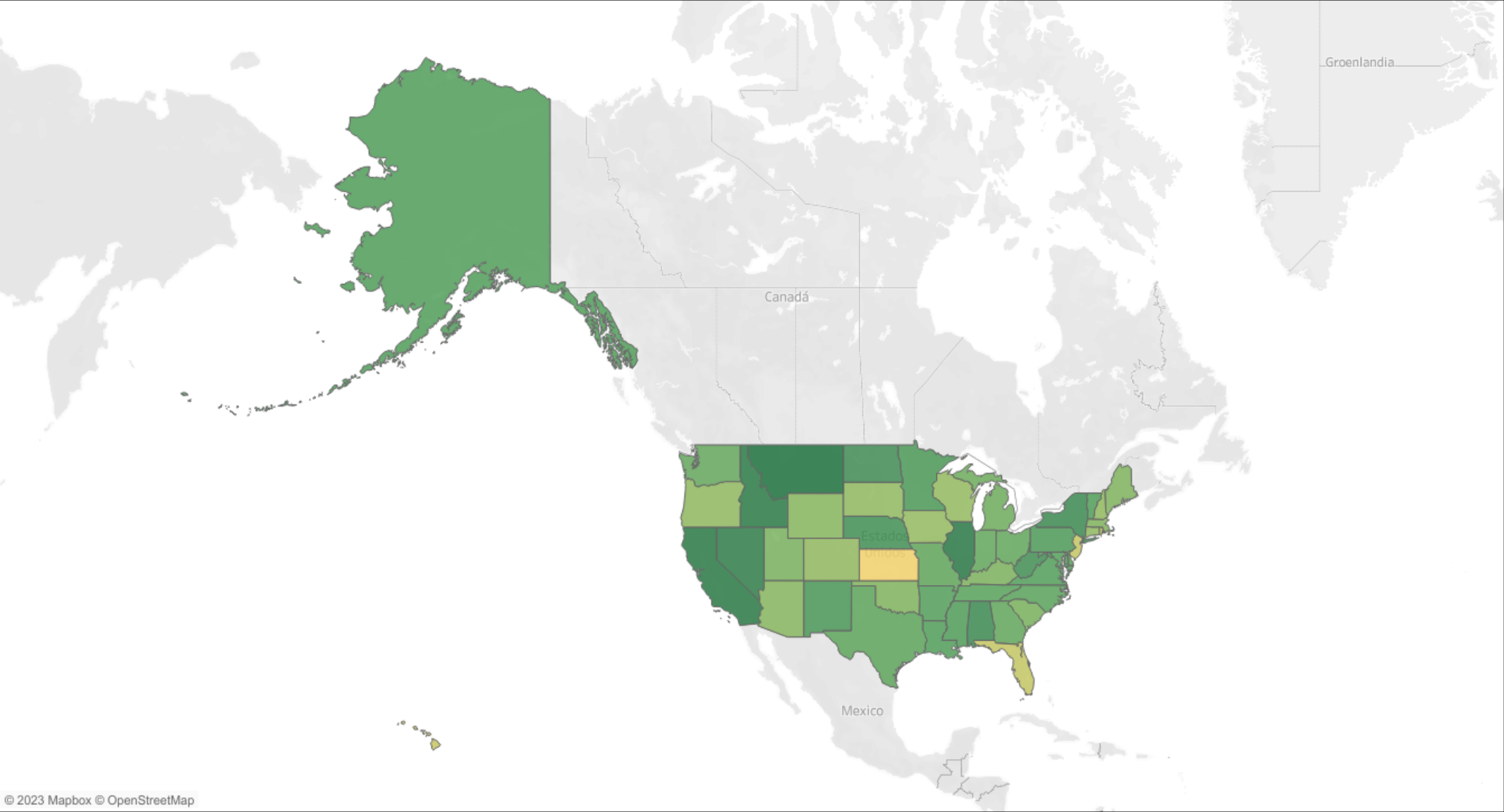This map illustrates the most commonly used payment method for each state.
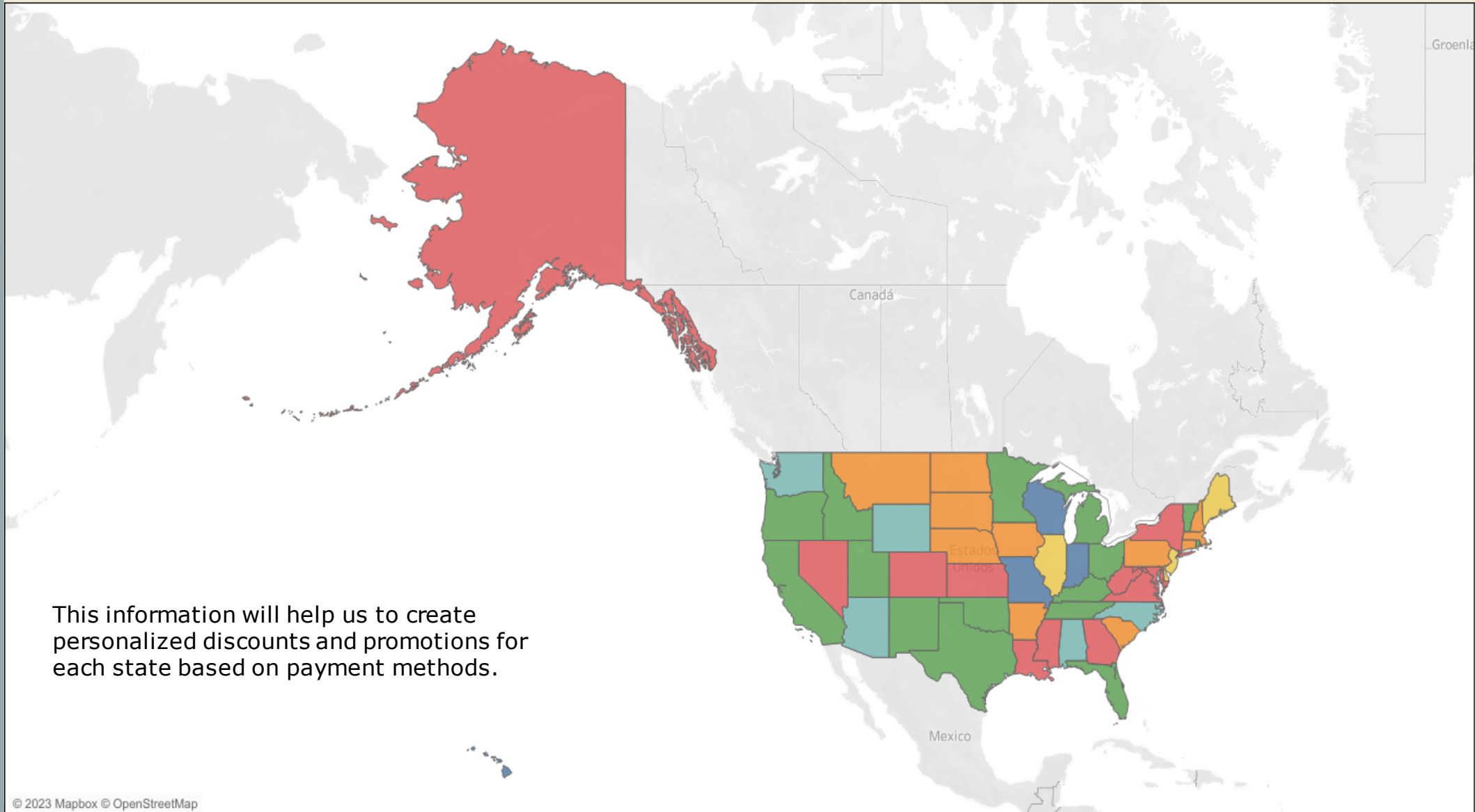
Payment methods
- PayPal
- Credit Card
- Cash
- Debit Card
- Venmo
- Bank Transfer

This information will help us to create personalized discounts and promotions for each state based on payment methods.

State Performance: Graphic Breakdown of Sales

This map displays the amount in sales by state.

Sales(usd)
3.437   5.784

Groenlandia

Canadá

Estados Unidos

Mexico

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Seasonal perspective

This dashboard shows variation in sales according to the seasons.

Autumn

Spring

High sales

Summer

Low sales
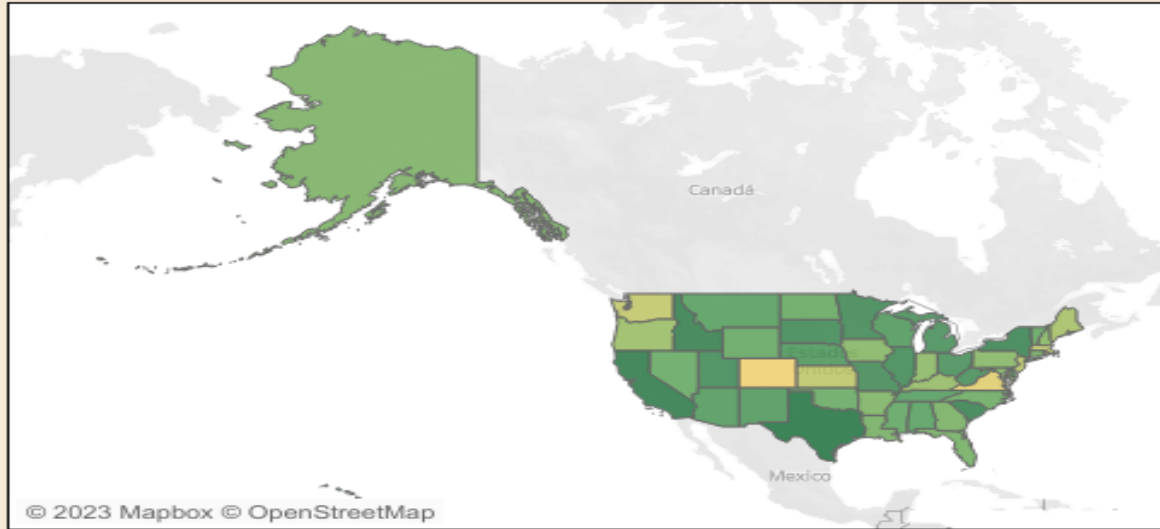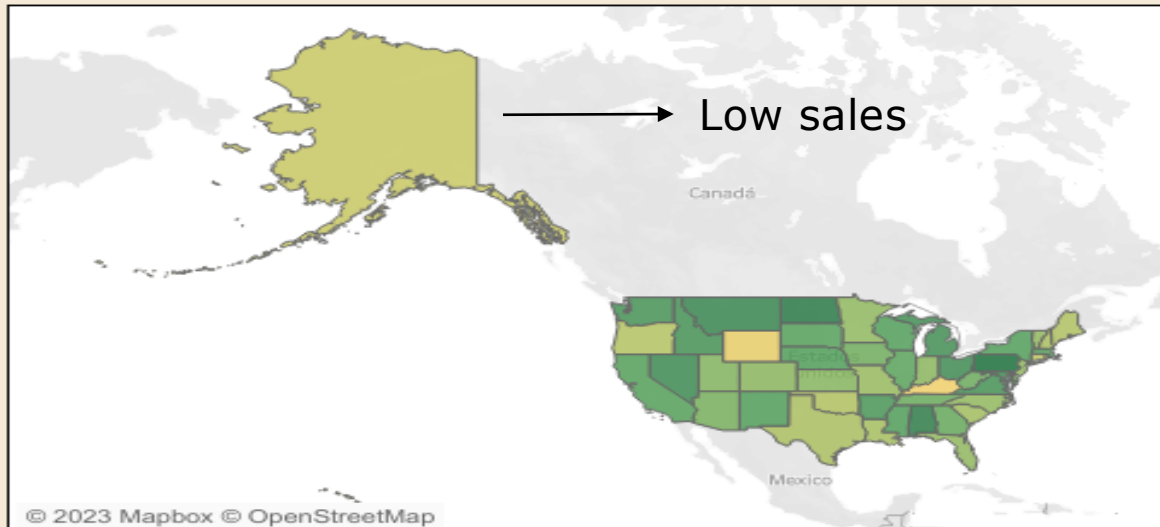
Winter
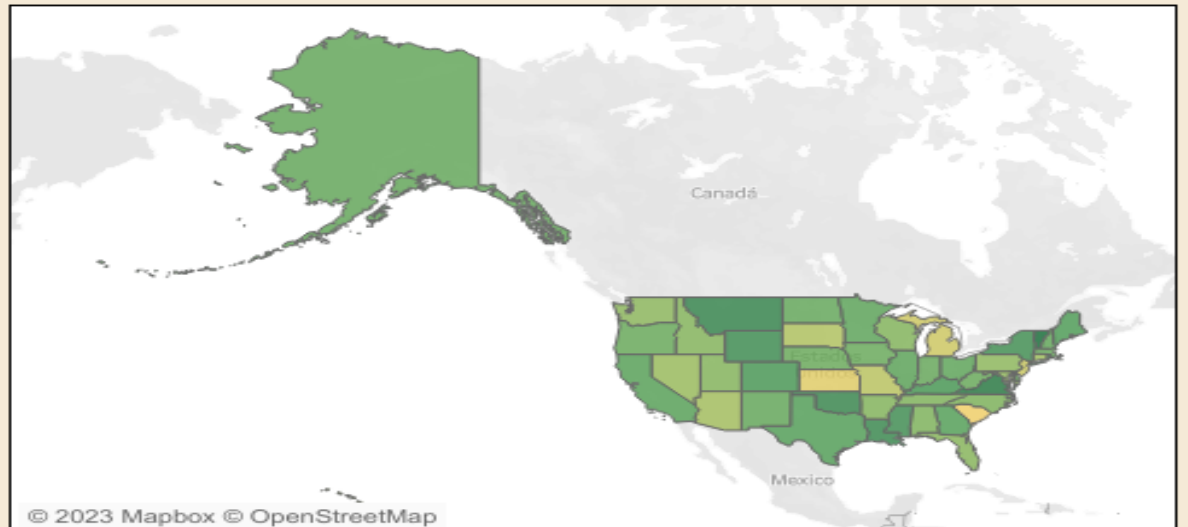
General trends

conclusions:

There are products that keep their performance throughout the year and others that lose it.

We see seasonal products emerge.

We know the most used payment method in each State.

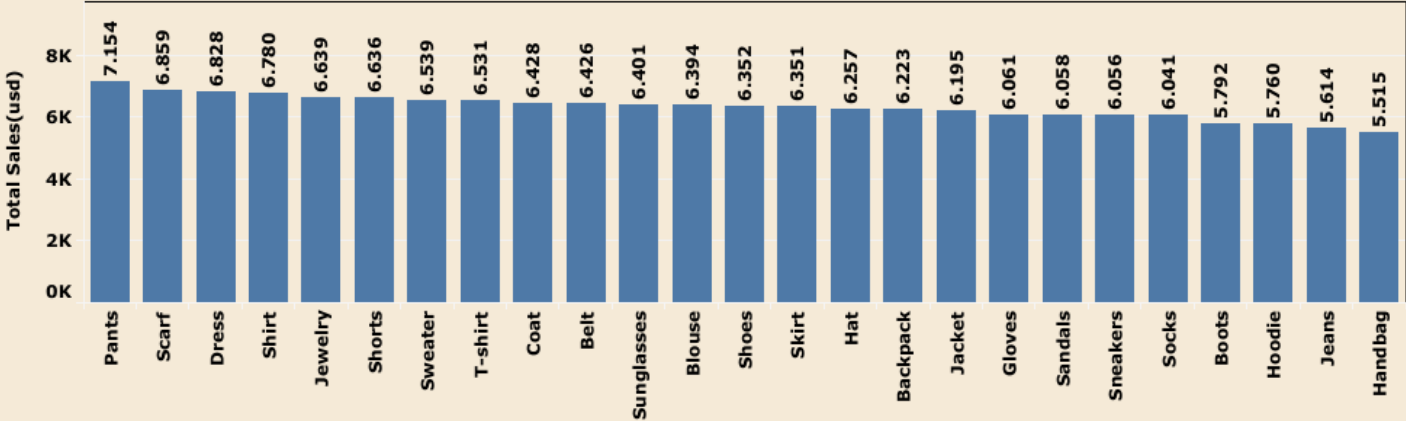We know which states have the best sales and how they vary in the different seasons.
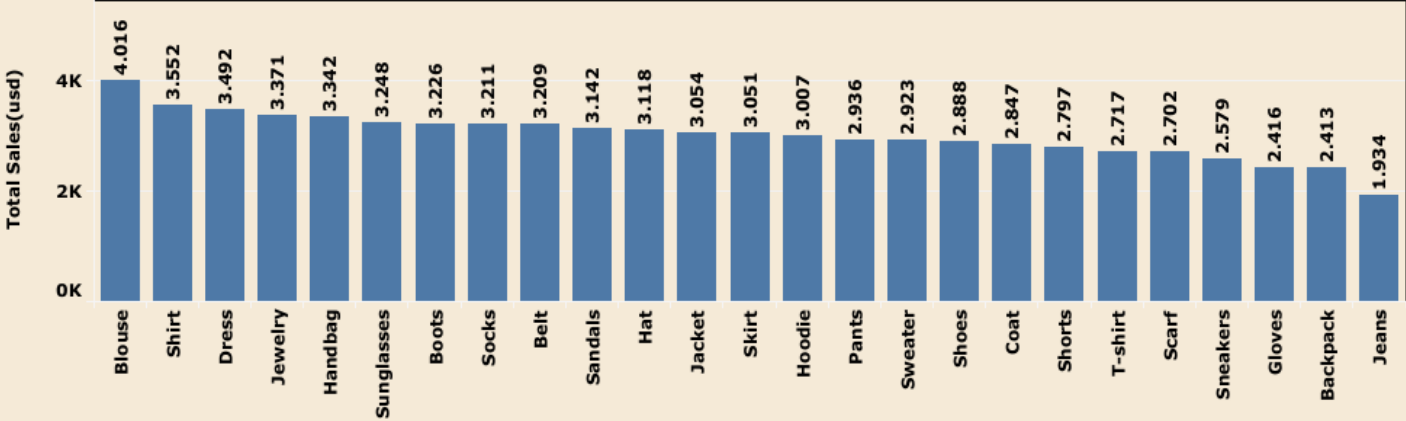
GENDER SEGMENTATION

Payment method preferences by gender

Gender	Preferred Payment Method	
Female	Credit Card	223
	PayPal	221
	Cash	212
	Venmo	208
	Bank Transfer	203
	Debit Card	181
Male	Cash	458
	PayPal	456
	Debit Card	455
	Credit Card	448
	Venmo	426
	Bank Transfer	409

Preferred Payment Method
- Bank Transfer
- Cash
- Credit Card
- Debit Card
- PayPal
- Venmo
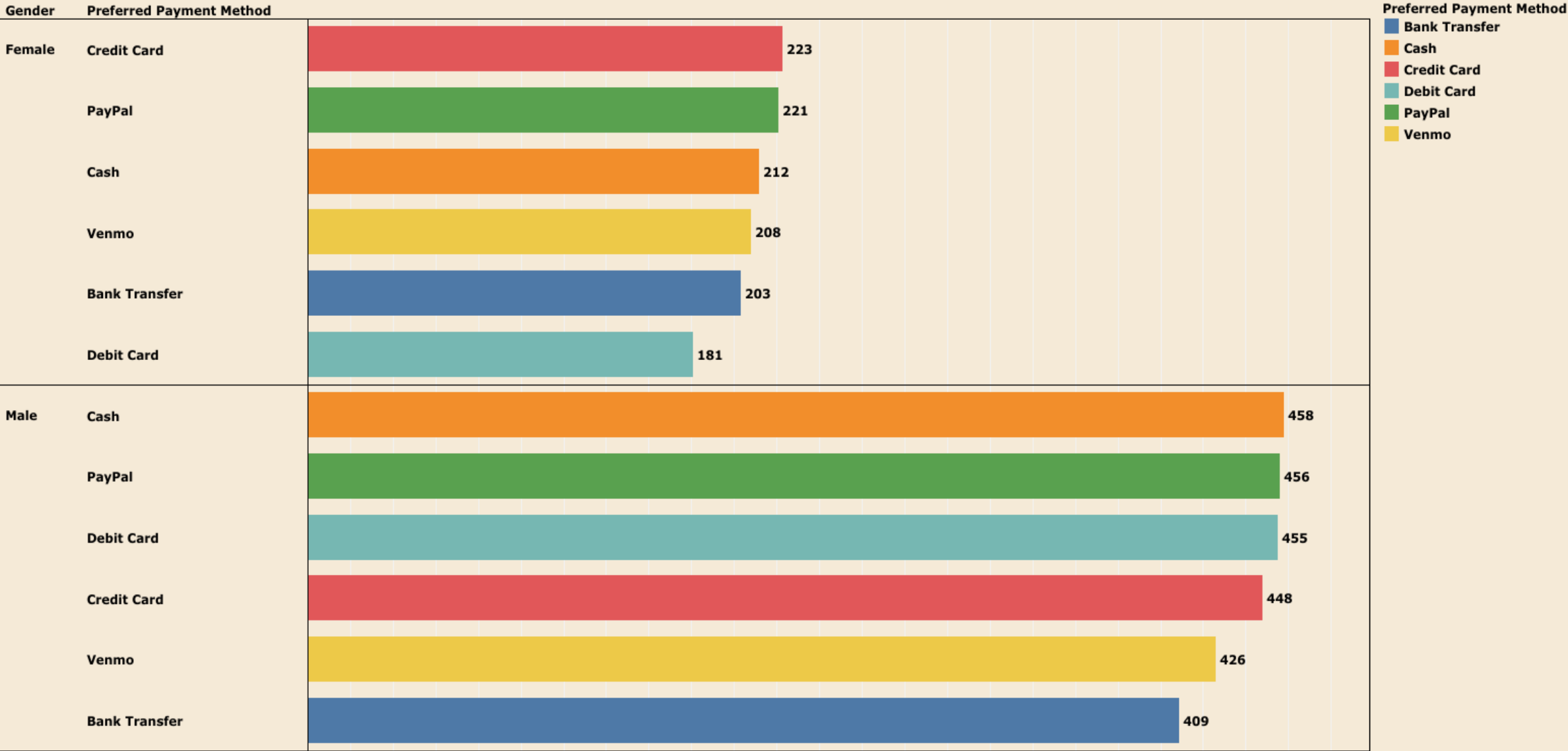
Purchase Frequency: Comparative Analysis by Gender

Gender	Frequency of P..		
Male	Every 3 Months	████████████████████████	398
	Quarterly	████████████████████████	394
	Annually	███████████████████████	387
	Fortnightly	███████████████████████	379
	Monthly	██████████████████████	368
	Weekly	██████████████████████	367
	Bi-Weekly	█████████████████████	359
Female	Bi-Weekly	███████████	188
	Every 3 Months	███████████	186
	Monthly	███████████	185
	Annually	███████████	185
	Weekly	██████████	172
	Quarterly	██████████	169
	Fortnightly	█████████	163
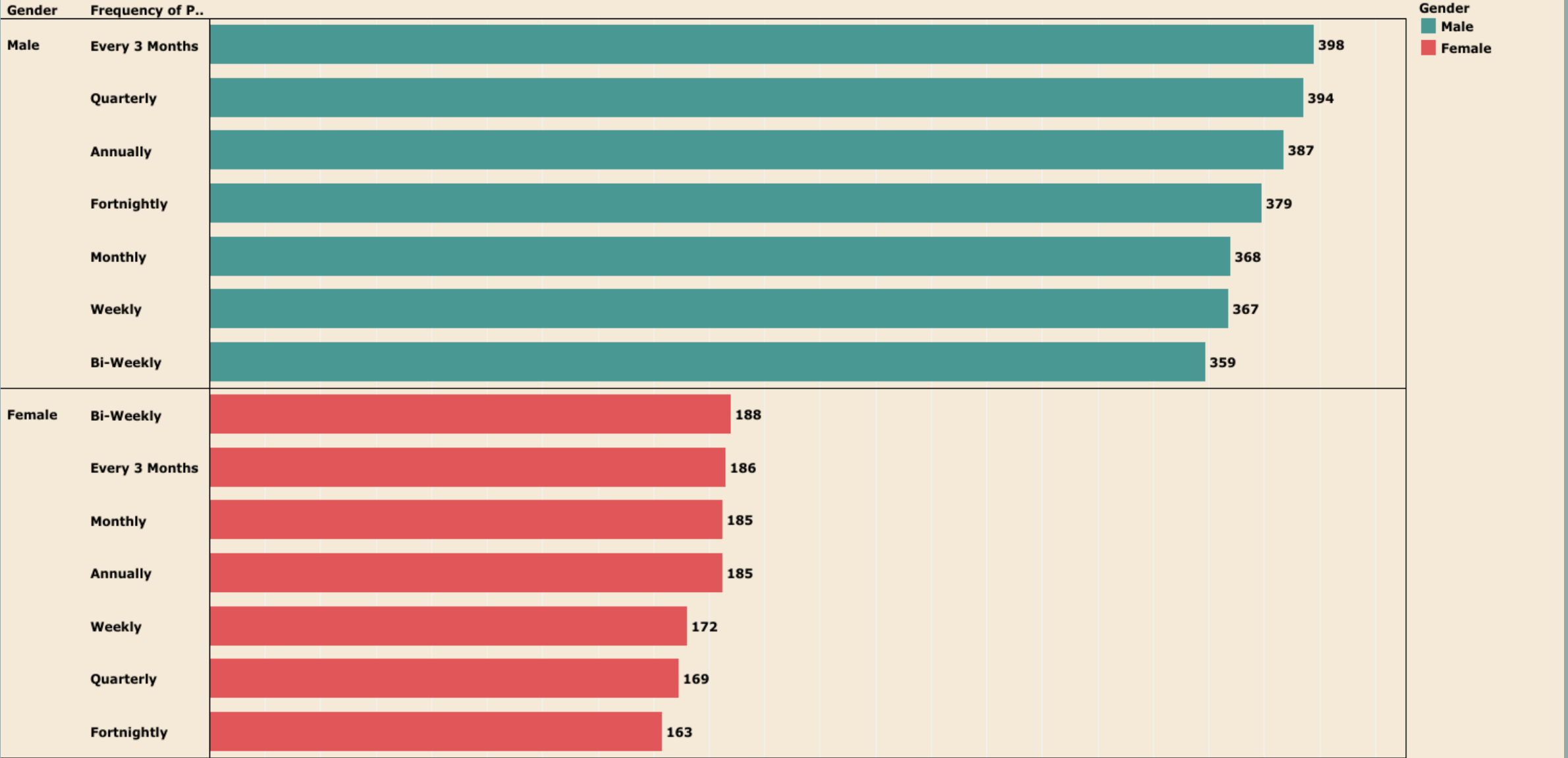
Gender
- Male
- Female

Payment Preferences by Purchase Frequency and Gender
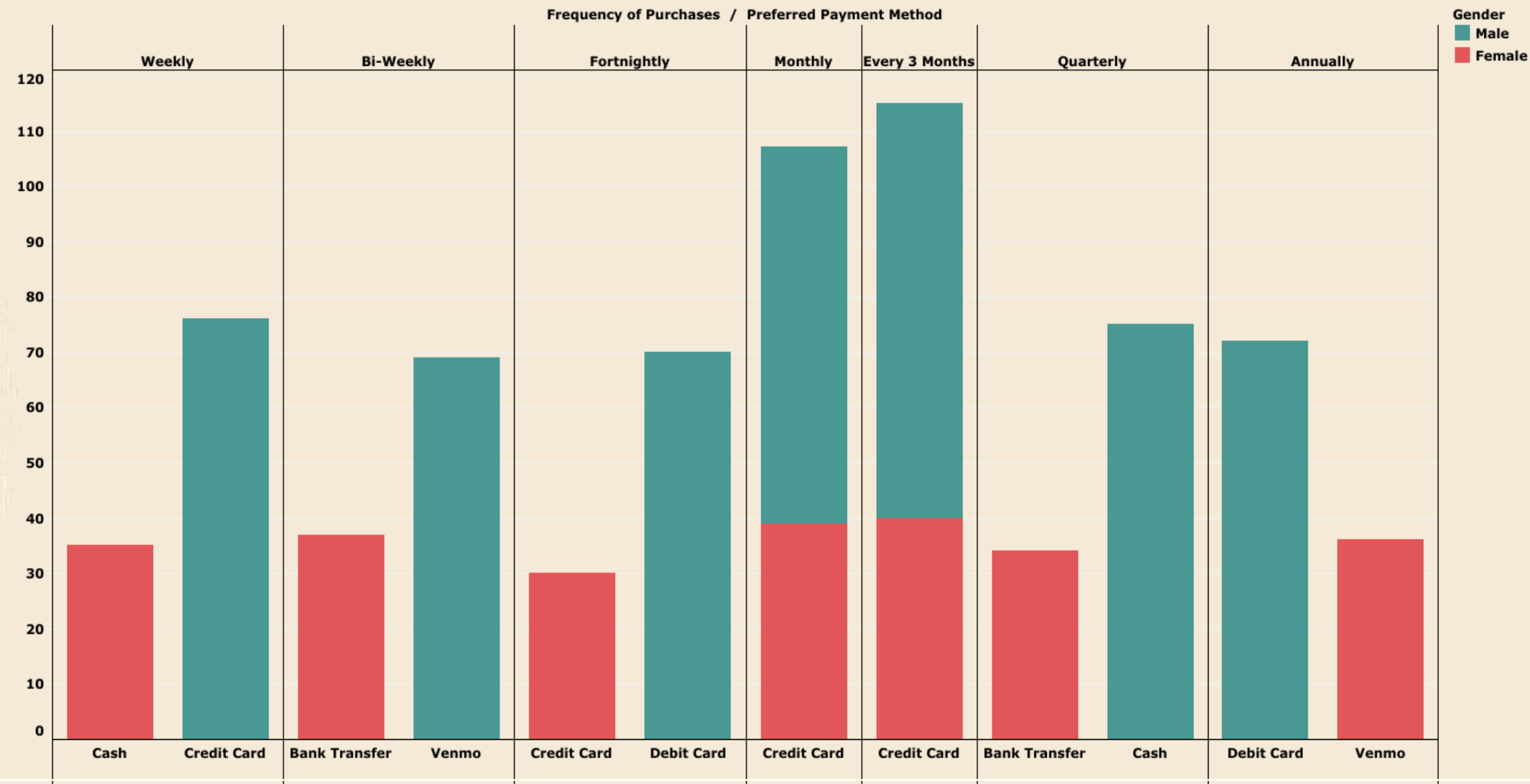
Gender segmentation conclusions:

◦ Men spend 209% more on purchases than women.

◦ We know which are the best-selling products by gender.

◦ We find out the most used payment methods by gender.

◦ We discover the frequency of purchases by gender and which is the most used payment method in each one.

Analysis of Ratings: Shipping Methods

Shipping Type	
Free Shipping	3,7
Next Day Air	3,7
Store Pickup	3,7
2-Day Shipping	3,8
Express	3,8
Standard	3,8

Average rating review by payment method

Cash	3,7
Credit Card	3,7
Debit Card	3,7
Bank Transfer	3,8
PayPal	3,8
Venmo	3,8

RATING REVIEW

The difference in rating between different kinds of shipping and payment methods is minimal at first glance, so:

- We will see the average rating by state and what the average review rating is like, for each shipping type and payment method, to discover areas for improvement.

Analysis of ratings: Average by State

This map displays the average rating received by each state.

Average rating: 3,3 — 4,2

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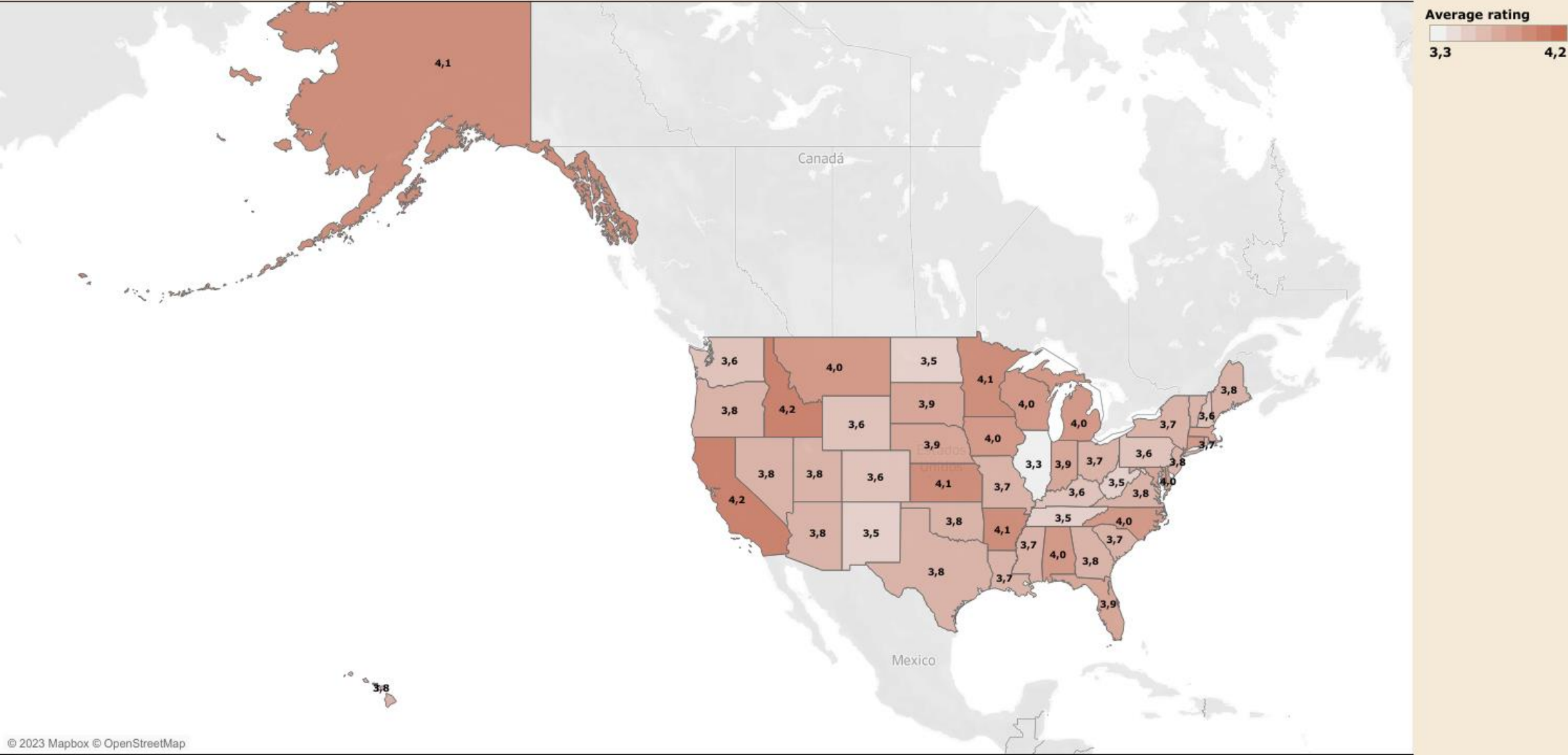
Rating analysis: States and shipping methods

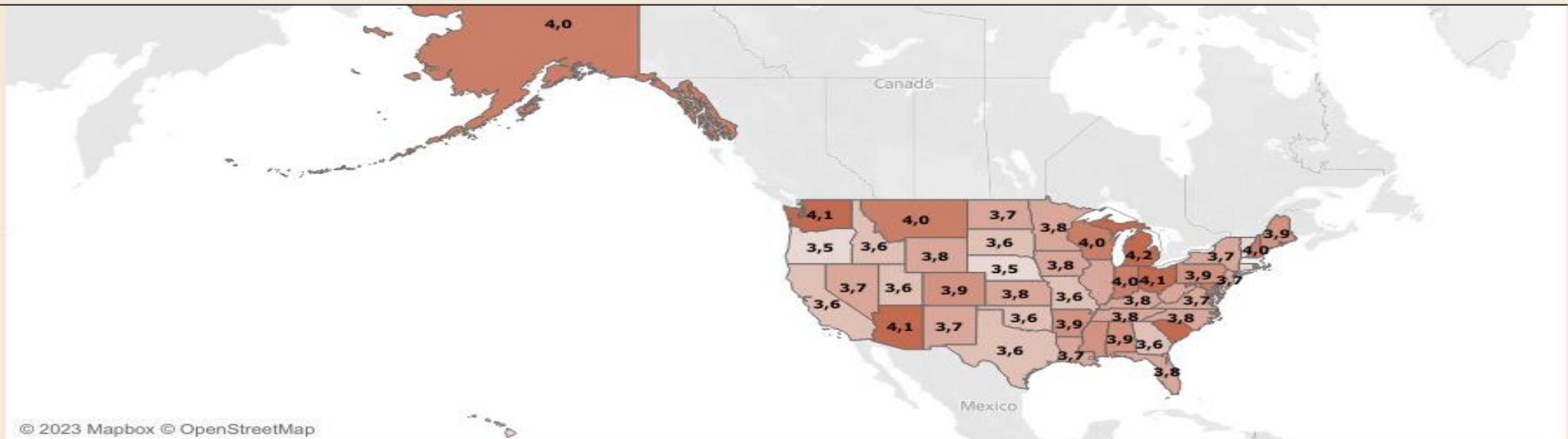The following dashboards display the average rating in each state for each type of shipping.

Free Shipping

A 0.8 variation
in the review rating

Next Day Air
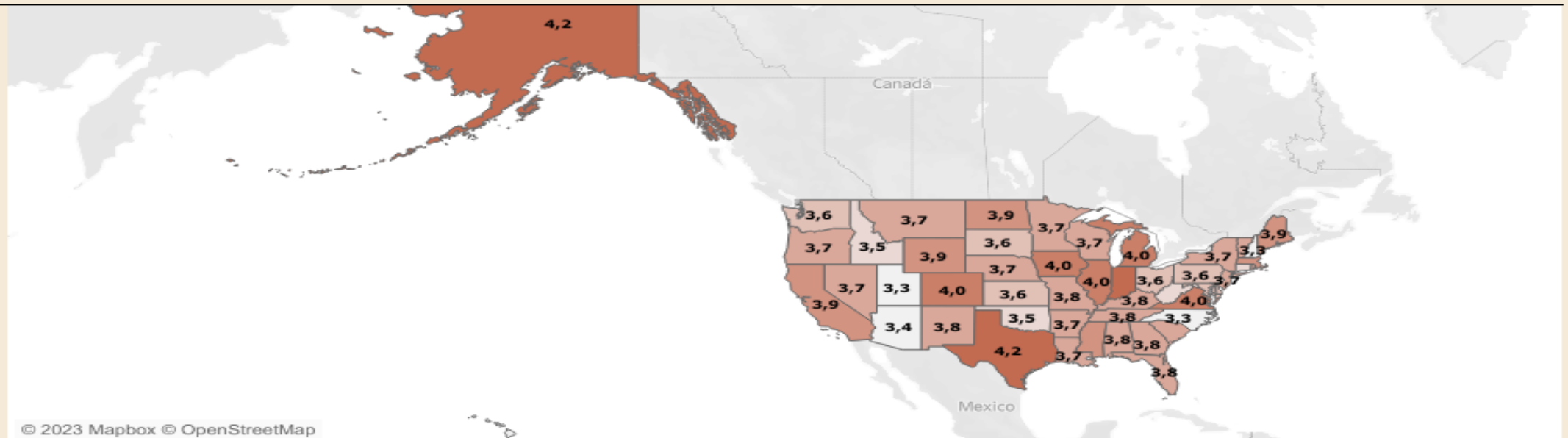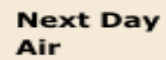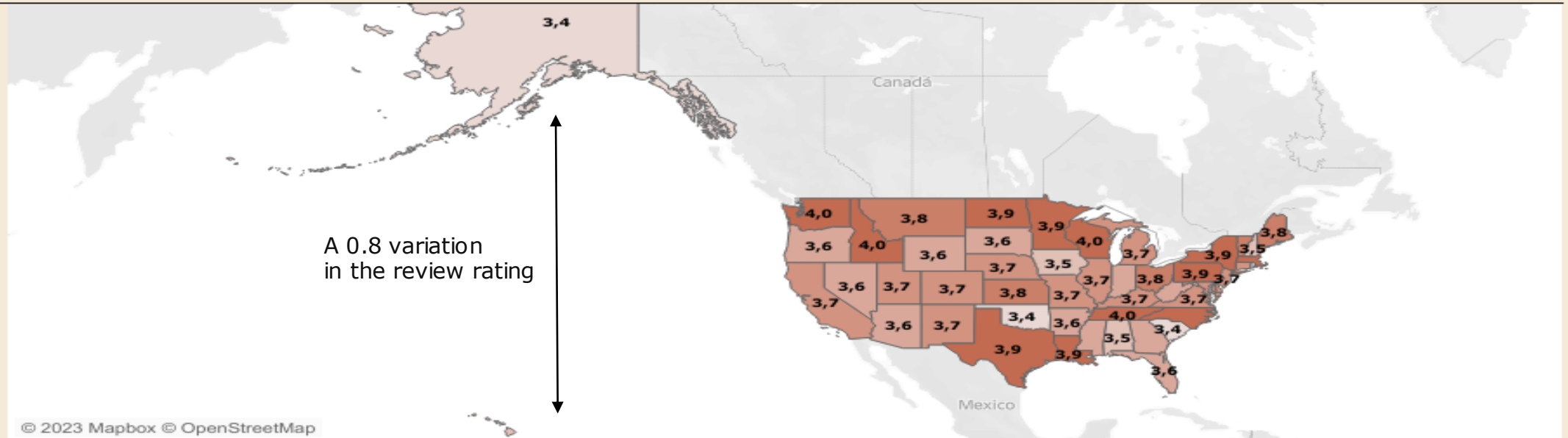
Rating Analysis: States and Shipping Methods

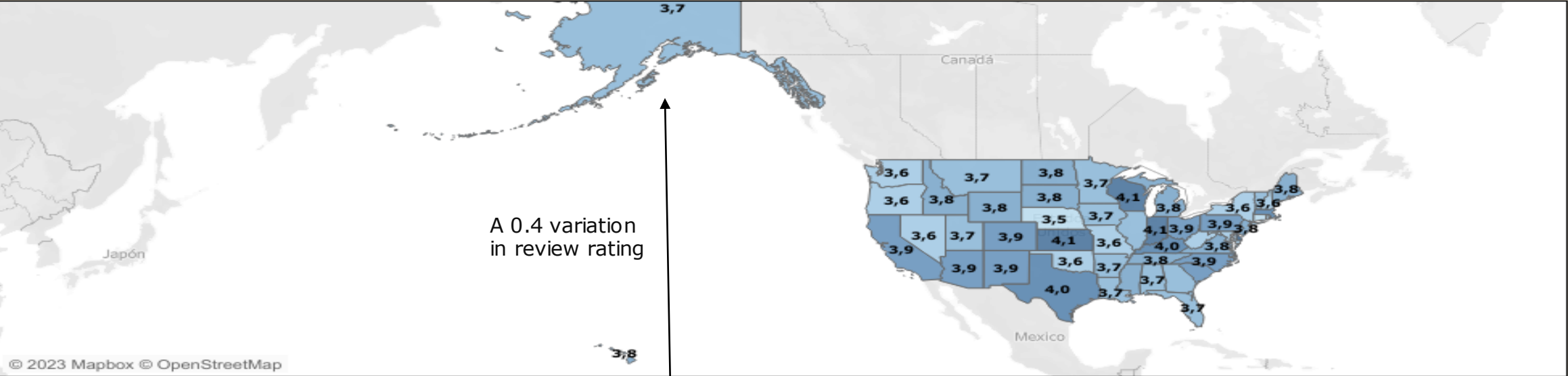© 2023 Mapbox © OpenStreetMap
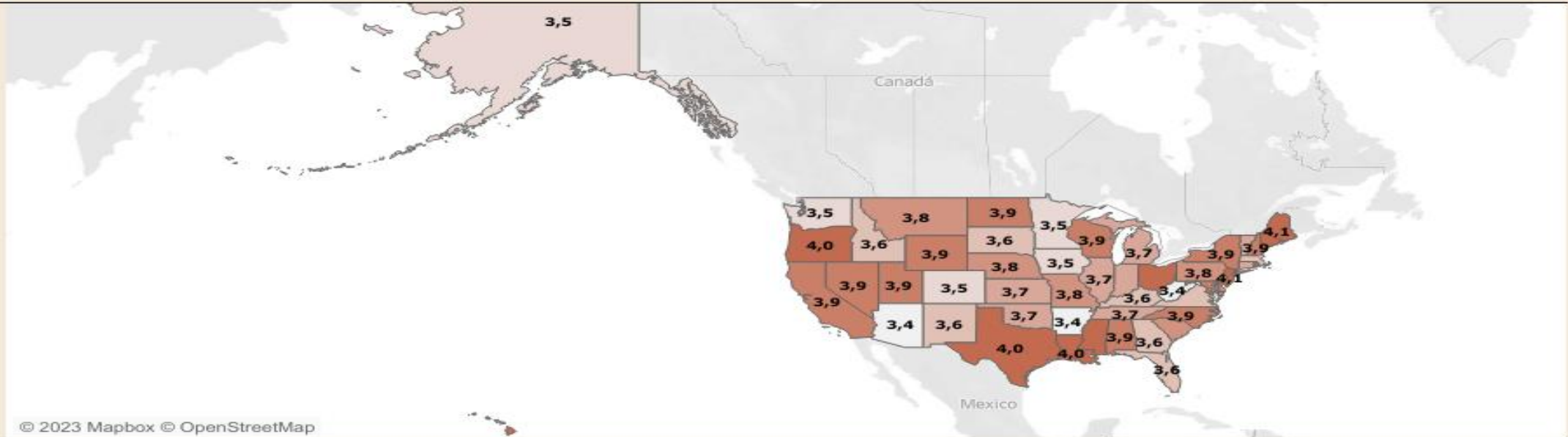
Rating analysis: States and shipping methods
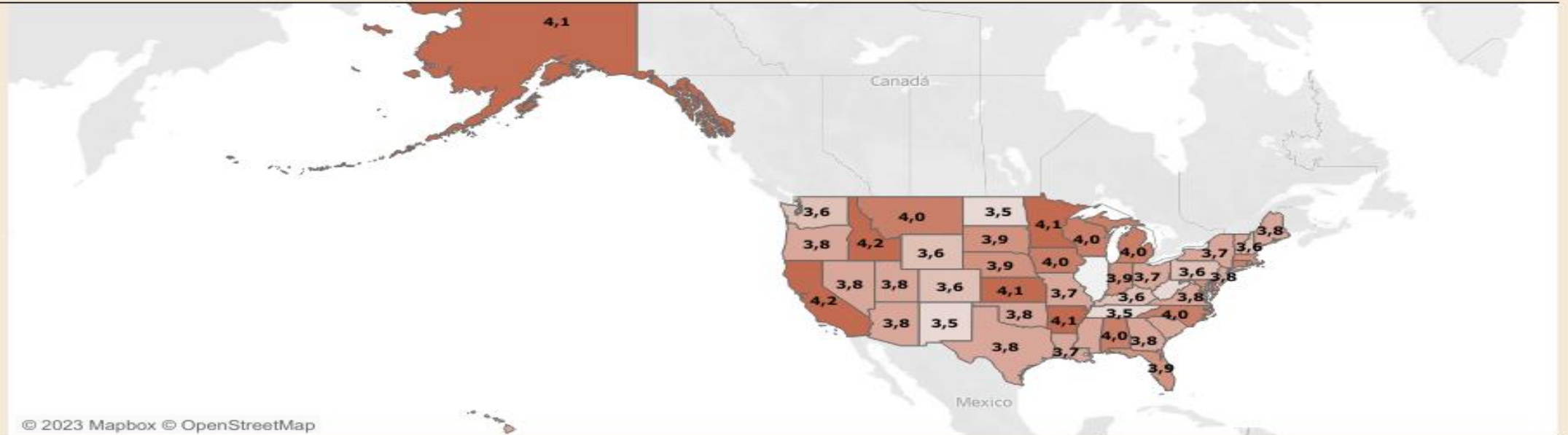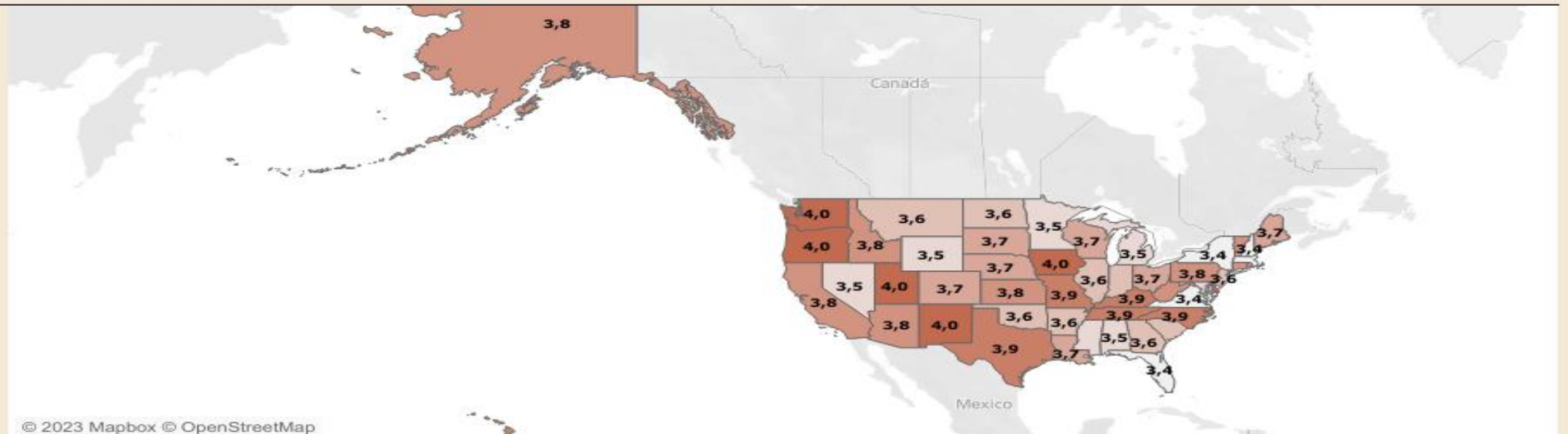
Rating analysis: States and payment methods

Bank transfer

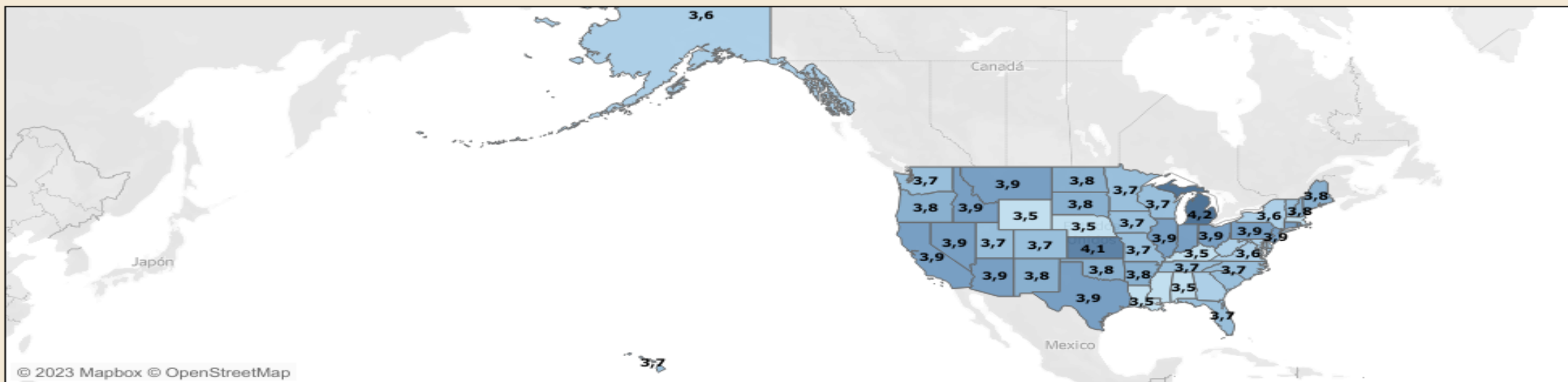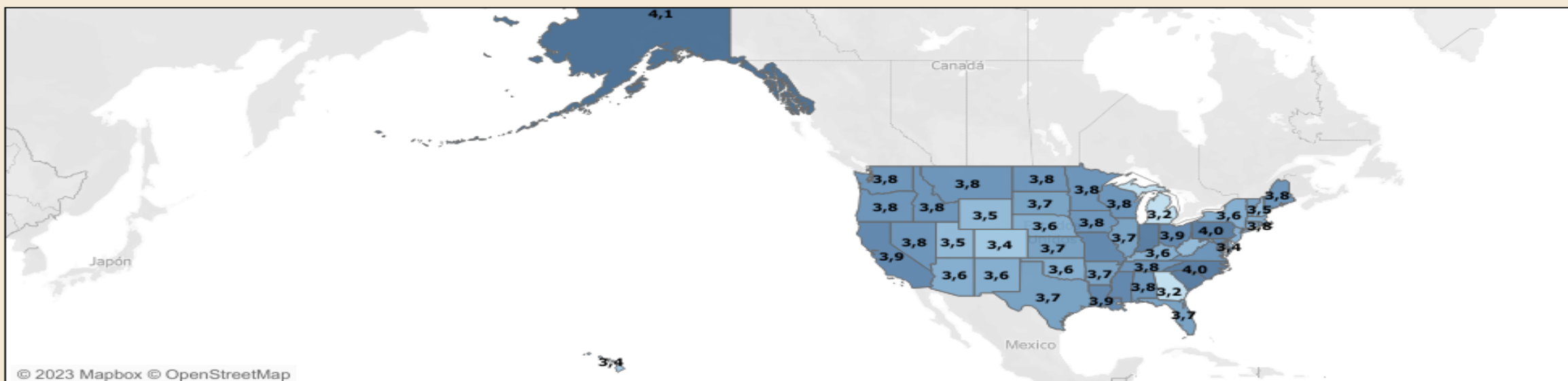A 0.4 variation
in review rating

Cash
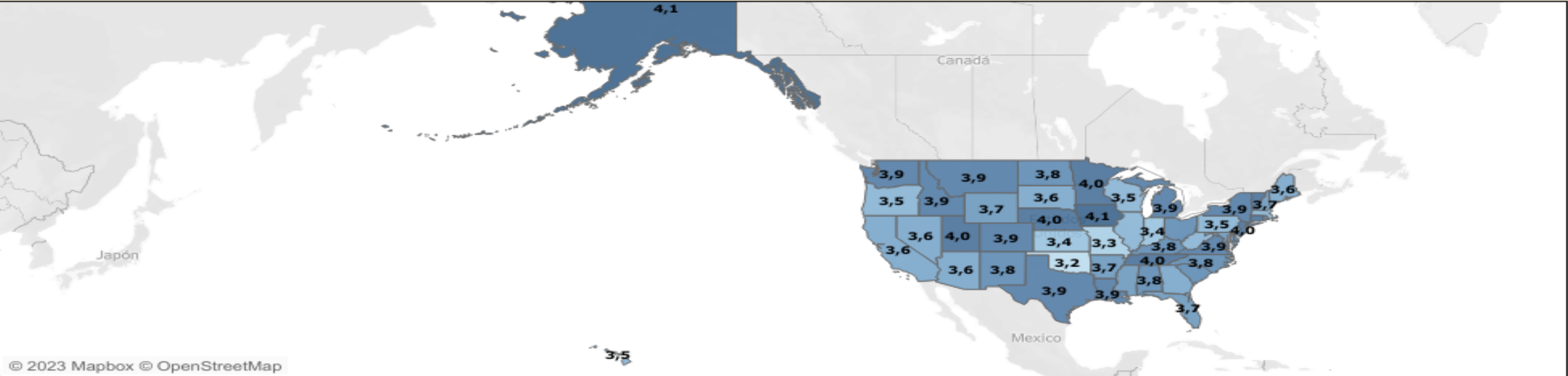
Rating analysis: States and payment methods

Credit card

Debit card

Rating analysis: States and payment methods

Paypal

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Venmo

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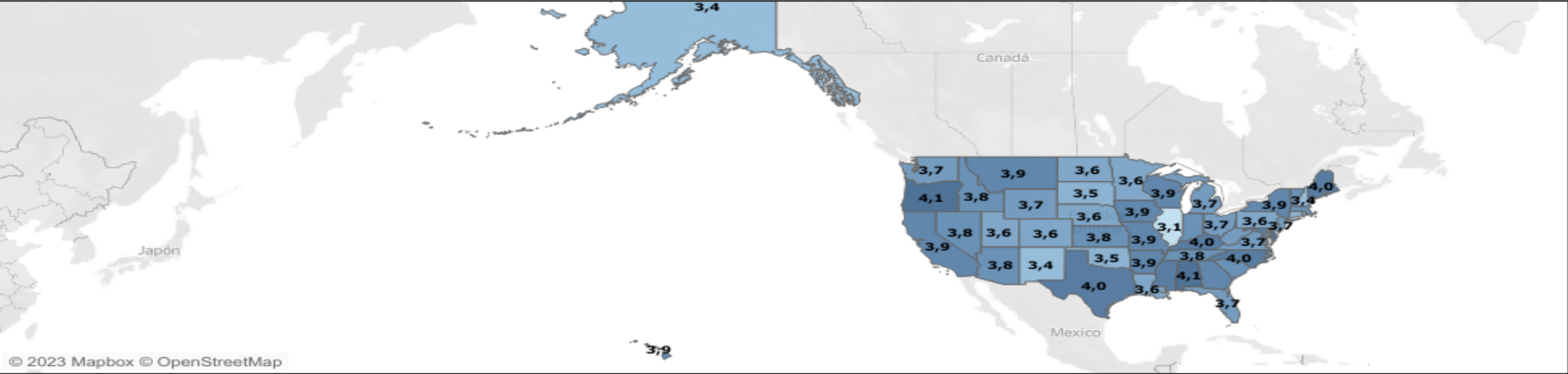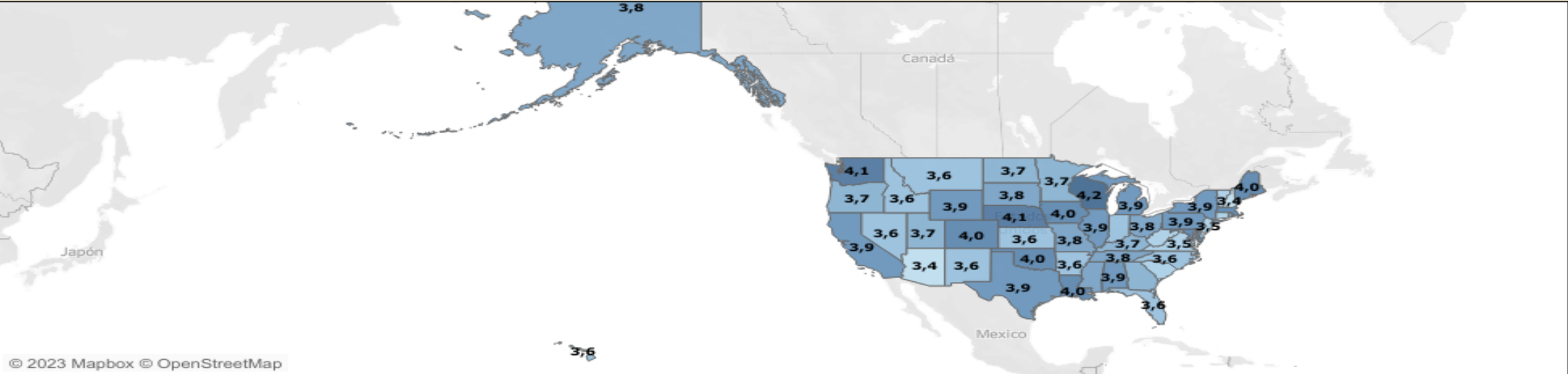
Review rating conclusion:

- Shipping type and payment method are key factors in review rating.

- The review rating varies across different states for the same shipping types and payment methods, we need to improv that to have consistency and achieve a better customer experience which means a better rating review.
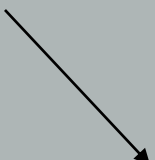
DISCOUNTS

Quantity of Applied and Not Applied Discounts

False	2.223
True	1.677

We have 32.5% more of purchases without discounts.

Discounts: Applied and unapplied

Discount Applied	Subscription Status	Payment Method					
		Bank Transfer	Cash	Credit Card	Debit Card	PayPal	Venmo
True	True	167	179	194	180	159	174
	False	104	111	98	90	107	114
False	False	361	358	404	363	372	365

We do not have unapplied discounts where the customer has been subscriber.

Discount comparison: Payment methods and subscription status

This graph displays the number of discounts applied to each payment method, comparing them based on subscription status.
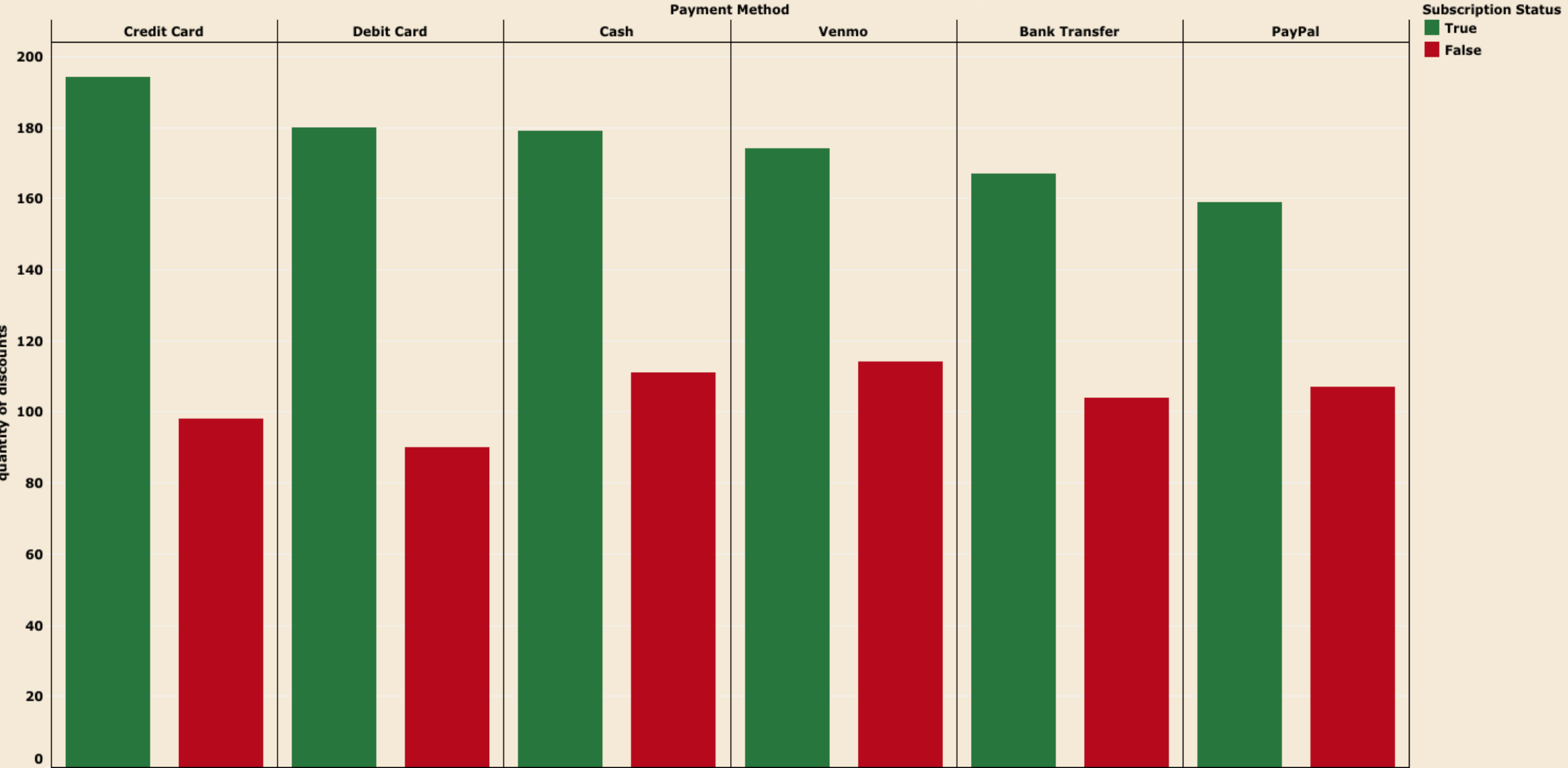
Discounts conclusions:

- Subscribers have more discounts applied.

- In sales without discounts there are not subscribed customers.

- We know which payment methods offer more discounts for subscribers and non-subscribers.

Final recommendations

- Marketing efforts should be focused on strengthening the position of products in constant demand like belts, blouses, T-shirts, and dresses. Additionally, launching new complementary products that align with consumer preferences, such as personalized buckles for belts, should be considered.

- Develop targeted marketing campaigns and promotions to capitalize on seasonal trends, such as jackets and scarves in the fall.

- Collaborate with the marketing team to devise personalized strategies for each region. Adjust the strategies according to the most commonly used payment options in each region and seasonality. This will help in increasing sales during specific seasons when certain states have low sales rates.

- Align promotions with the optimal frequency for each gender, quarterly for men and biweekly for women, and use their preferred payment method to improve future promotions.

- Analyse underperforming areas and optimize logistics for those regions. This could include partnering with more reliable local shipping providers, establishing additional distribution centres, and/or adjusting delivery times.

- Improve marketing campaigns to attract new subscribers by emphasizing discounts and carrying out promotions with credit and debit cards. These payment methods are most commonly used by subscribers on which discounts are applied. However, they are the ones with the least discounts applied to non-subscribers.

THE END

Thank you