

Ladies and Gentlemen,

In today's meeting, I present an analysis of data on Car & Bike Care products available on the Amazon platform. We focus on evaluating customer satisfaction and product popularity based on data sourced from the following link: [Amazon Products Dataset on Kaggle] (<https://www.kaggle.com/datasets/lokeshparab/amazon-products-dataset/data>). This dataset provides comprehensive insights into various metrics that help us understand trends, customer preferences, and overall market dynamics within the Car & Bike Care category.

Slide 2

In our analysis, we focused on individual columns:

- Name: Product name from the Car & Bike Care category.
- Ratings: Average product rating given by customers.
- Number of ratings: The number of ratings our products have received.
- Discount price: Promotional price of the products, expressed in Indian rupees.
- Actual price: The actual price of the products, expressed in Indian rupees. It is also worth mentioning that the total number of products in the Bike & Car Care category is 960.

Slide 3

From the data on Car & Bike Care category products regarding product ratings, we can deduce:

- Average product rating: Stands at 3.77, indicating a generally positive reception by customers.
- Average number of ratings per product: Equal to 232, demonstrating customer activity in rating products.
- Total number of ratings: Reached a value of 156,033, showing high popularity and engagement in using these products.
- Products with the highest ratings: The number of products that received the highest possible rating is 80. This indicates a group of products that have been particularly well received by users.
- Products with the lowest ratings: There are 22 of them, which may indicate products that do not meet customer expectations or have certain flaws.
- Products with one rating: This situation applies to 103 products, which may suggest their novelty in the market or low popularity.
- Products without ratings: There are 288. These are products that are either very new or have not yet gained interest among customers.

Slide 4

During the analysis, we noticed that 13 products have a rating equal to "Get", which may suggest a special offer or promotion associated with these products. This is an interesting phenomenon, as it shows how diverse labels can affect product perception by customers.

Additionally, we identified 11 products where the number of ratings is equal to "Free Delivery by Amazon". This indicates that the presence of a free delivery option may be an important factor in attracting attention and encouraging purchase, which can also affect the number of product ratings. The possibility of free delivery is often a key decision-making element for customers looking for additional value when shopping online.

Meanwhile, only 2 products have the information "Only 1 left in stock" in place of the number of ratings, which may suggest that these products are running out and may be perceived as more desirable due to their limited availability. Such information can affect the perceived value of the product and accelerate purchasing decisions and the lack of sales volume and customer ratings of the product.

Slide 5

Analyzing the prices of products from the Car & Bike Care category on Amazon, we can highlight the following key price information:

- Average actual price of products: Amounts to 2022.94 Indian rupees. This is the average price at which these products are usually offered to customers without any discounts.
- Average promotional price of products: Set at 1165.38 Indian rupees, indicating that these products are usually available at a lower price as part of various promotions aimed at attracting more customers.
- Average discount amount on all products: Amounts to 933.99 Indian rupees, showing the average discount value is over 900 rupees.
- Number of products without a listed price: Reaches 42, which may mean that these products are new to the offer, or their prices are set individually depending on the supplier or specific sales conditions.
- Number of products without a listed promotional price: Amounts to 114, meaning the product seller has not yet decided on a discount price.

Slide 6

Analyzing data on products from the Car & Bike Care category regarding product ratings, the total number of products that have a rating amount to 649. We can deduce:

- Products with ratings 1-2: They constitute 6% of all products, with a quantity of 39 pieces. This group represents the smallest percentage of products, indicating that only a small number of items do not meet customer expectations. The low rating in this group may result from quality issues or customer dissatisfaction.
- Products with ratings 2-3: They occupy 12% of the total, with a total number of 77 products. These products indicate moderate customer satisfaction and may require some improvements to better meet market expectations.
- Products with ratings 3-4: This is the largest group, covering 45% of all rated products, with a quantity of 294 pieces. It follows that these products are generally well rated by customers, suggesting their solidity and appropriate quality in relation to the price, making them attractive to a wide audience.
- Products with ratings 4-5: They comprise 37% of the total, with 239 products in this category. This is a large group of products that receive the highest ratings, indicating a high level of customer satisfaction and exceptional quality. These products gain the most positive recommendations from users, which can attract new customers and contribute to building a strong brand.

Slide 7

The attached chart shows a list of various products from the Car & Bike Care category along with the number of ratings, each of which received a 5-star rating:

1. DIVINE Car Windshield Glass Concentrated Washer Tablets
 - Highest column on the chart with 13 five-star ratings. Windshield washer tablets that are highly regarded by users for their effectiveness and popularity.
2. TEXUM TX200 High Pressure Washer Machine
 - Column with 9 ratings. A pressure washer used for advanced cleaning tasks, recognized for its efficiency.
3. RainX Latitude 5071268 Auto Part (3 Pack)
 - Column with 7 ratings. A set of auto parts that have gained customer recognition, which may indicate their reliability and usefulness.
4. Xtra Armor MicroTissue Microfiber Towels for Home use
 - Column with 6 ratings. Microfiber towels that are used both at home and for car care.
5. CAR SAAZ® Upholstery And Carpet Cleaner and JPT Pressure Washer Coupler, Quick Connect Fittings
 - Both columns with 5 ratings. A cleaning agent for upholstery and carpets and accessories for a pressure washer, both of which have received positive reviews for their functionality.
6. MANNOL 9944 Leather Cleaner and Conditioner and Roky Mini Foldable Washing Machine
 - Columns with 4 ratings. A leather care kit and a portable washing machine, both positively reviewed for quality and practicality.
7. brandM Car Washing Sponge with Microfiber Washer Towel Duster for Cleaning Car Bike Vehicle (Pack of 1 PIS) & Wurth New Paint Polish 1lit:
 - These two products received the least reviews among all listed, having only 3 reviews each. The brandM sponge, made from microfiber, is valued for its multitasking and efficiency in cleaning various vehicles, ensuring gentleness and effectiveness without the risk of scratching. Meanwhile, Wurth New Paint Polish enhances color and shine, offering durable protection and ease of maintaining a vehicle's aesthetic look, making it an ideal choice for detail enthusiasts.

Slide 8

The attached chart lists various products from the Car & Bike Care category along with the number of ratings, each of which received a 1-star rating:

1. DEBIRE Vacuum Cleaner for Car
 - Number of negative ratings: 4
 - Description: A car vacuum cleaner that has gathered the most negative reviews, indicating problems with its efficiency or durability.
2. INDOPOWER HDCC788-CAR Scratch Remover
 - Number of negative ratings: 3
 - Description: A scratch remover that does not meet customer expectations, especially for deeper damages.
3. TEXUM High Pressure Washer Inlet Hose Filter
 - Number of negative ratings: 2
 - Description: A filter for a pressure washer hose that did not meet customer expectations, possibly due to inadequate filtration quality.
4. ZSIGNS Car Duster Microfiber
 - Number of negative ratings: 1
 - Description: A microfiber car duster that failed to meet expectations regarding cleaning effectiveness.
5. Toriox Water Zoom Jet Power Pressure Washer
 - Number of negative ratings: 1
 - Description: A pressure washer that does not meet expectations in terms of power and cleaning efficiency.
6. STHIRA® Car Duster Microfiber
 - Number of negative ratings: 1
 - Description: A microfiber car duster that disappoints in terms of durability and effectiveness.
7. ST-13 Multipurpose Cycle Motorcycle Bike Chain Cleaner Brush
 - Number of negative ratings: 1
 - Description: A brush for cleaning bike chains that does not meet expectations in terms of effectiveness.
8. Side Panel for HF Deluxe (Black/Blue)
 - Number of negative ratings: 1
 - Description: A side panel for HF Deluxe that may not meet customer expectations in terms of quality and fit.

Slide 9

The attached chart shows products that have the highest current price. The chart presents the ten most expensive products available on the platform, with additional information about their average rating from customer reviews. Here is a detailed description of each product:

1. RTC Btali Trolley Pressure Washer Heavy Duty 3HP (MAX Pressure: 160 BAR) with Complete Accessories | Orange and Black
 - Price: 39,999
 - Average rating: 2.5
 - Column color: Blue
 - Description: The most expensive product on the list, characterized by the lowest average rating among the presented products.
2. Bosch Aquatak 130 1700Watt High Pressure Washer (Green) with F016800360 6m High Pressure Hose (Black) Combo
 - Price: 22,118
 - Average rating: 4.3
 - Column color: Yellow
 - Description: The second most expensive product, yet with a high average rating, suggesting high quality and customer satisfaction.
3. EvapoRust ER012 The Original Super Safe Rust Remover 1 Gallon
 - Price: 20,179
 - Average rating: 4.6
 - Column color: Purple
 - Description: A high-priced product with a very good rating, indicating its effectiveness and popularity.
4. BLACK+DECKER BEPW2200IN 1700W 2175 PSI 150 Bar Pressure Washer for Car wash and Home use (Red & Black), 1 Year Warranty
 - Price: 17,499
 - Average rating: 3.8
 - Column color: Red
 - Description: Excellent for home use and car washing, with a moderate average rating.
5. BLACK+DECKER BW15IN 1500Watt 120 Bar, 390 L/hr Flow Rate Pressure Washer for Car wash and Home use (Red & Black)
 - Price: 17,160
 - Average rating: 4.0
 - Column color: Green
 - Description: Another product from BLACK+DECKER, well-rated for its efficiency and versatility.

6. KortexY10D Waterproof High Pressure Car Washer Machine with Motive Power 2800 watt and Max Pressure 180 bar Including All...
 - Price: 16,999
 - Average rating: 3.9
 - Column color: Turquoise
 - Description: A powerful pressure washer with high power and pressure, well-rated for its features.

7. Inalsa High Pressure Washer PowerShot-2100W | Powerful Induction Motor/ Industrial Grade | Pressure 135 Bar, Max Flow 432 L/h...
 - Price: 16,995
 - Average rating: 4.0
 - Column color: Dark Green
 - Description: A high-powered pressure washer, well-rated for its efficiency and performance.

8. Chemical Guys CWS301 Citrus Wash and Gloss Concentrated Car Wash (3.79 L)
 - Price: 16,179
 - Average rating: 4.6
 - Column color: Purple
 - Description: A car wash concentrate with wax, highly rated for its cleaning quality and gloss.

9. Ballroex (KS8) 2600 W 150 Bar Pressure Washer / Car Washer with Pressure Control Knob & Accessories.
 - Price: 16,000
 - Average rating: 3.5
 - Column color: Orange
 - Description: A mid-range pressure washer with pressure control, moderately rated by users.

10. Vantro High Pressure Washer with Pressure Control Knob Induction Motor 2300Watt with 2 Year Warranty (2022 Model)
 - Price: 15,999
 - Average rating: 3.8
 - Column color: Red
 - Description: A pressure washer with adjustable pressure settings, rated for its robust construction and effectiveness.

Slide 10

The following chart illustrates the top 10 lowest-priced products from the Bike & Car Care category:

1. RESIL VISTA Max Cut & Glaze
 - Price: 185
 - Average rating: 3.2
 - Column color: Blue
 - Description: The most expensive product among those with the lowest prices, moderately rated.
2. Waxpol Tyre Shine Spray Liquid (100 ml)
 - Price: 175
 - Average rating: 4
 - Column color: Green
 - Description: A product designed for tyre care, well-rated for its effectiveness.
3. Truwax Rubbing Compound 200g
 - Price: 175
 - Average rating: 3.2
 - Column color: Blue
 - Description: A rubbing compound, well-rated for its effectiveness.
4. 3M Polish (100 ml, Orange)
 - Price: 175
 - Average rating: 3.9
 - Column color: Light Blue
 - Description: A 3M brand polish, moderately rated, in a 100 ml package.
5. AllExtreme EXMFRN1 DoubleSided Microfiber Car Washing Mitt Reusable Duster Glove for Wet/Dry Applications (Random Colors...
 - Price: 159
 - Average rating: 4.4
 - Column color: Purple
 - Description: A microfiber glove for car washing, moderately rated.
6. Modicare Advanced Auto Wash Concentrated Shampoo Cleaner for 2 Wheeler, Car & Bike, 250ml
 - Price: 138
 - Average rating: 3.3
 - Column color: Orange
 - Description: A concentrated shampoo for vehicle washing, the best-rated in the group.

7. Truwax AllinOne Multipurpose Liquid Polish Spray (200ml) Provides Extra High Shine to Car & Bike, Home Appliances, Rubber...
 - Price: 130
 - Average rating: 3.2
 - Column color: Blue
 - Description: A versatile polish spray, moderately rated.
8. Motomax 2K Car Rubbing Compound, 200 g
 - Price: 120
 - Average rating: 3.5
 - Column color: Red
 - Description: A car rubbing compound, moderately rated.
9. Telmo Car Shampoo (225 ml)
 - Price: 110
 - Average rating: 4.2
 - Column color: Yellow
 - Description: A car shampoo, well-rated, in a 225 ml package.
10. Vista Expert Performance Cloth MG | Cleaning Cloth | Microfiber | Vehicle Cleaner
 - Price: 100
 - Average rating: 4
 - Column color: Light Green
 - Description: A microfiber cleaning cloth for vehicles, well-rated, the cheapest product on the list.

Analyzing the top cheapest products reveals that their average ratings range from 3 to 4.5 on a scale of 5.

Slide 11

The chart shows the ten products with the largest price discounts. The columns visualize the price differences between the initial price and the discounted price, and the column colors represent the average rating of each product. Here is a detailed description of each product:

1. RTC Btali Trolley Pressure Washer Heavy Duty 3HP (MAX Pressure: 160 BAR) with Complete Accessories | Orange and Black
 - Price difference: 12,500
 - Average rating: 2.5
 - Description: The product with the largest discount, but with the lowest average rating on the list.
2. EvapoRust ER012 The Original Super Safe Rust Remover 1 Gallon
 - Price difference: 11,789
 - Average rating: 4.6
 - Description: An effective rust remover, with a large discount and a high average rating.
3. Inalsa High Pressure Washer PowerShot-2100W | Powerful Induction Motor/ Industrial Grade | Pressure 135 Bar, Max Flow 432 L/h...
 - Price difference: 9,120
 - Average rating: 4.0
 - Description: A powerful pressure washer with a significant discount, well-rated for its performance.
4. Car Vacuum Powerful Portable & High Power Handheld Vacuum Cleaner for Car and Home Wet and Dry Vacuum Cleaner
 - Price difference: 8,800
 - Average rating: 3.6
 - Description: A multifunctional portable vacuum, ideal for use at home and in the car.
5. BLACK+DECKER BW15IN 1500Watt 120 Bar, 390 L/hr Flow Rate Pressure Washer for Car wash and Home use (Red & Black)
 - Price difference: 8,737
 - Average rating: 4.0
 - Description: A pressure washer with a good discount, valued for its effectiveness in cleaning.
6. Tradhivilla 12V DC Electric Car Washer Pump Portable High Pressure Car Washer Machine Car Washing Accessories Spray Gun
 - Price difference: 7,550
 - Average rating: 3.4
 - Description: A portable car washer, ideal for those who travel frequently.

7. KortexY10D Waterproof High Pressure Car Washer Machine with Motive Power 2800 watt and Max Pressure 180 bar Including All...
 - Price difference: 7,122
 - Average rating: 3.9
 - Description: A durable and powerful pressure washer, well-rated for its durability and efficiency.

8. Ballroex (KS8) 2600 W 150 Bar Pressure Washer / Car Washer with Pressure Control Knob & Accessories.
 - Price difference: 6,976
 - Average rating: 3.5
 - Description: A pressure washer with a pressure control knob, effective for various applications.

9. Bosch Aquatak 130 1700Watt High Pressure Washer (Green) with F016800360 6m High Pressure Hose (Black) Combo
 - Price difference: 6,959
 - Average rating: 4.3
 - Description: A solid and reliable pressure washer from a renowned brand, with a good discount.

10. JPT UNDERBODY/UNDERCARRIAGE CAR CHASIS Washer Lance ATTACHMENTS
 - Price difference: 6,801
 - Average rating: 3.6
 - Description: Accessories for car chassis washing, practical for those concerned with comprehensive cleanliness.

Analyzing products that received the biggest discounts, it can be observed that the average rating of these products generally exceeds 3.2, indicating positive reviews. However, the product with the biggest discount in this group received a relatively low average rating of only 2.5.

Slide 12

The attached chart presents a list of products from the Car & Bike Care category along with the number of ratings each has received on the Amazon platform. Here are the descriptions of the top 10 products by the number of reviews, from highest to lowest:

1. Mothers 05101 Mag & Aluminum Polish 10 oz.
 - Average rating: 4.7
 - Number of reviews: 12,309
 - Description: The most frequently reviewed product, valued for its effectiveness in polishing metal.

2. EvapoRust ER012 The Original Super Safe Rust Remover 1 Gallon
 - Average rating: 4.6
 - Number of reviews: 10,233
 - Description: Highly rated for its effectiveness in removing rust, which attests to its popularity and efficiency.

3. Chemical Guys MIC29202 Premium Grade Microfiber Applicator (Set of 2)
 - Average rating: 4.6
 - Number of reviews: 9,509
 - Description: A set of microfiber applicators, appreciated for their quality and versatility.

4. Meguiar's M105 Mirror Glaze UltraCut Compound 8 oz.
 - Average rating: 4.6
 - Number of reviews: 6,779
 - Description: Known for deep cleaning and restoring the look of automotive paint.

5. Meguiar's Ultimate Liquid Wax 16 oz.
 - Average rating: 4.7
 - Number of reviews: 6,096
 - Description: Automotive wax, valued for long-lasting protection and exceptional shine.

6. Ceramic Blade Mini CutterAutoRetractable
 - Average rating: 4.3
 - Number of reviews: 5,524
 - Description: A useful tool with a safe, auto-retracting blade.

7. Chemical Guys CWS301 Citrus Wash and Gloss Concentrated Car Wash (3.79 L)
 - Average rating: 4.6
 - Number of reviews: 5,511
 - Description: A car shampoo with added wax, popular for its effectiveness and additional gloss.

8. Sonax 417300 Application Sponge
 - Average rating: 4.4
 - Number of reviews: 4,686
 - Description: A universal application sponge, whose popularity stems from its versatility.

9. Chemical Guys MIC1995 Gray Woolly Mammoth Microfiber Dryer Towel (36" x 25")
 - Average rating: 4.7
 - Number of reviews: 4,680
 - Description: A large microfiber dryer towel, highly rated for its speed and efficiency.

10. ChemicalGuys CWS11016 Honeydew Snow Foam Car Wash Soap and Cleanser (473.2 ml)
 - Average rating: 4.6
 - Number of reviews: 3,777
 - Description: Car wash foam, popular for its ease of use and effective cleaning.

From the analysis of the chart showing the ten most frequently reviewed products from the Bike & Car Care category, it can be deduced that all products that have the highest number of reviews are very well rated by customers, with an average of over 4 out of 5.

Slide 13

The chart presents the ten products with the highest number of ratings on the Amazon platform, where the colors of the columns reflect the price difference between the initial and discounted prices of these products. The products are organized from those with the highest number of ratings to those with the fewest. Here are the details of the data presented in the chart:

1. Mothers 05101 Mag & Aluminum Polish 10 oz.
 - Number of reviews: 12,309
 - Price difference: 2,303
 - Description: This product, used for polishing metal, is the most frequently reviewed product, demonstrating its popularity and effectiveness.
2. EvapoRust ER012 The Original Super Safe Rust Remover 1 Gallon
 - Number of reviews: 10,233
 - Price difference: 11,789
 - Description: Highly valued for its effectiveness in rust removal, this product also has one of the highest price differences, indicating significant discounts.
3. Chemical Guys MIC29202 Premium Grade Microfiber Applicator (Set of 2)
 - Number of reviews: 9,509
 - Price difference: (no data)
 - Description: Popular microfiber applicators, used for applying waxes and other maintenance substances.
4. Meguiar's M105 Mirror Glaze UltraCut Compound 8 oz.
 - Number of reviews: 6,779
 - Price difference: 1,964
 - Description: Known for its ability to deeply clean and restore the shine of automotive paint.
5. Meguiar's Ultimate Liquid Wax 16 oz.
 - Number of reviews: 6,096
 - Price difference: 1,280
 - Description: Valued for its long-lasting protection and shine, this automotive wax has a moderate price difference.
6. Ceramic Blade Mini CutterAutoRetractable
 - Number of reviews: 5,524
 - Price difference: (no data)
 - Description: A mini cutter with an auto-retracting blade, useful for working with various materials.
7. Chemical Guys CWS301 Citrus Wash and Gloss Concentrated Car Wash (3.79 L)
 - Number of reviews: 5,511
 - Price difference: 4,854
 - Description: A car shampoo with added wax, popular for its effectiveness and large price difference.
8. Sonax 417300 Application Sponge
 - Number of reviews: 4,686
 - Price difference: (no data)
 - Description: An application sponge for various preparations, crucial in any car care kit.
9. Chemical Guys MIC1995 Gray Woolly Mammoth Microfiber Dryer Towel (36" x 25")
 - Number of reviews: 4,680
 - Price difference: 200
 - Description: A microfiber drying towel, valued for its large size and small price difference.
10. ChemicalGuys CWS11016 Honeydew Snow Foam Car Wash Soap and Cleanser (473.2 ml)
 - Number of reviews: 3,777
 - Price difference: 1,391
 - Description: Car wash foam, popular for its effectiveness in removing dirt.

The analysis of the chart showing the ten most frequently reviewed products from the Bike & Car Care category reveals that larger price discounts do not always correlate with a higher number of ratings. For example, although EvapoRust ER012 has one of the highest price differences amounting to 11,789, the product with the highest number of reviews, Mothers 05101 Mag & Aluminum Polish, has a significantly lower price difference. This suggests that other factors, such as the quality and reputation of the product, may have a greater impact on customer interest and sales than the price difference alone.

Slide 14

In summary, from our data, it appears that as many as 288 products have not received any ratings from customers. This is an important observation, but I would like to add that this number also includes products where the ratings column includes entries such as "Get," "Free Delivery by Amazon," or "Only 1 left in stock." It follows that when analyzing the sales of these products, it would be worthwhile to check other indicators such as how high their sales volumes are and how customers rate them. Additionally, our analysis does not indicate a correlation between the size of the discount and the number of product ratings. This may suggest that while price promotions are attractive, they do not necessarily translate into increased review activity, which is an important signal for our promotional efforts. Finally, it is worth noting that over 80% of the analyzed products are well-received by customers, indicating a strong market position and good reception by consumers.

Cleaning

The cleaning process involves converting string values to integer values and removing currency symbols from the columns related to prices.

```
UPDATE car_and_bike_care
SET actual_price = REPLACE(actual_price, '₹', '')
WHERE actual_price LIKE '₹%';
```

```
UPDATE car_and_bike_care
SET discount_price = REPLACE(discount_price, '₹', '')
WHERE discount_price LIKE '₹%';
```

```
UPDATE car_and_bike_care
SET discount_price = REPLACE(discount_price, ',', '');
```

```
UPDATE car_and_bike_care
SET actual_price = REPLACE(actual_price, ',', '');
```

```
UPDATE car_and_bike_care
SET discount_price = NULL
WHERE discount_price = '';
```

```
UPDATE car_and_bike_care
SET actual_price = NULL
WHERE actual_price = '';
```

```
ALTER TABLE car_and_bike_care
ALTER COLUMN discount_price TYPE DECIMAL USING discount_price::numeric;
```

```
ALTER TABLE car_and_bike_care
ALTER COLUMN actual_price TYPE DECIMAL USING actual_price::numeric;
```

```
ALTER TABLE car_and_bike_care
ADD COLUMN price_difference DECIMAL;
```

```
UPDATE car_and_bike_care
SET price_difference = actual_price - discount_price;
```

```
UPDATE car_and_bike_care
SET no_of_ratings = REPLACE(no_of_ratings, ',', '');
```

```
UPDATE car_and_bike_care
SET no_of_ratings = NULLIF(no_of_ratings, '');
```

```
UPDATE car_and_bike_care
SET ratings = NULLIF(ratings, '');
```



```
UPDATE car_and_bike_care
SET ratings = NULL
WHERE ratings = '' OR ratings IS NULL OR NOT ratings ~ '^d+(\.d+)?$';
```

```
UPDATE car_and_bike_care
SET no_of_ratings = NULL
WHERE no_of_ratings = '' OR no_of_ratings IS NULL OR NOT no_of_ratings ~ '^d+(\.d+)?$';
```

```
ALTER TABLE car_and_bike_care
ALTER COLUMN ratings TYPE DECIMAL USING ratings::numeric;
```

```
ALTER TABLE car_and_bike_care
ALTER COLUMN no_of_ratings TYPE DECIMAL USING no_of_ratings::numeric;
```

Slide 2

```
select count(*) as number_of_products
from car_and_bike_care cabc
where name is not null
```

123	number_of_products	
1		960

Slide 3

```
SELECT round( AVG(ratings), 2) AS Average_Rating
FROM car_and_bike_care cabc ;
```

123	average_rating	
		3.77

```
SELECT round(AVG(no_of_ratings)) AS Average_Number_of_Ratings
FROM car_and_bike_care cabc ;
```

123	average_number_of_ratings	
		232

```
SELECT SUM(no_of_ratings) AS Total_Number_of_Ratings
FROM car_and_bike_care cabc ;
```

123	total_number_of_ratings	
		156,033

```
select count(*) as number_of_the_highest_rating  
from car_and_bike_care cabc  
where ratings = 5
```

123 number_of_the_highest_rating
80

```
select count(*) as number_of_the_lowest_rating  
from car_and_bike_care cabc  
where ratings = 1
```

123 number_of_the_lowest_rating
22

```
select count(*) as number_of_products_have_one_rating  
from car_and_bike_care cabc  
where no_of_ratings = 1
```

123 number_of_products_have_one_rating
103

```
select count(*) as number_of_products_have_no_rating  
from car_and_bike_care cabc  
where ratings is null
```

123 number_of_products_have_no_rating
288

Slide 4

```
select count(*) as number_of_get  
from car_and_bike_care cabc  
where ratings = 'Get'
```

123 number_of_get
13

```
select count(*) as number_free_delivery_by_amazon  
from car_and_bike_care cabc  
where no_of_ratings = 'FREE Delivery by Amazon'
```

123 number_free_delivery_by_amazon
11

```
SELECT COUNT(*) AS num_products_only_1_left_in_stock
FROM car_and_bike_care
WHERE no_of_ratings = 'Only 1 left in stock.';
```

	123 num_products_only_1_left_in_stock	
1	2	

Slide 5

```
SELECT round(AVG(actual_price), 2) AS average_actual_price
FROM car_and_bike_care cabc ;
```

123 average_actual_price
2,022.94

```
SELECT round( AVG(discount_price), 2) AS average_discounts_price
FROM car_and_bike_care cabc ;
```

123 average_discounts_price
1,165.38

```
SELECT round( AVG(price_difference), 2) AS average_price_defference
FROM car_and_bike_care cabc ;
```

123 average_price_defference
933.99

```
SELECT COUNT(*) AS num_products_no_actual_price
FROM car_and_bike_care
WHERE actual_price IS NULL;
```

	123 num_products_no_actual_price	
1	42	

```
SELECT COUNT(*) AS num_products_no_discount_price
FROM car_and_bike_care
WHERE discount_price IS NULL;
```

123 num_products_no_discount_price
114

Slide 6

```
SELECT range AS "Section",  
COUNT(*) AS "Quantity",  
ROUND((COUNT(*) * 100.0 / (SELECT COUNT(*) FROM car_and_bike_care cabc WHERE  
ratings IS NOT NULL AND actual_price IS NOT NULL))) AS  
"Percentage_breakdown_of_the_total" FROM (  
SELECT  
CASE  
WHEN ratings BETWEEN 1 AND 2 THEN '1-2'  
WHEN ratings BETWEEN 2 AND 3 THEN '2-3'  
WHEN ratings BETWEEN 3 AND 4 THEN '3-4'  
WHEN ratings BETWEEN 4 AND 5 THEN '4-5' END AS range FROM car_and_bike_care cabc  
WHERE ratings IS NOT NULL AND actual_price IS NOT NULL ) subquery GROUP BY range  
ORDER BY range;
```

Section	Quantity	Percentage_breakdown_of_the_total
1-2	39	6
2-3	77	12
3-4	294	45
4-5	239	37

Slide 7

```
SELECT "name", no_of_ratings
FROM car_and_bike_care cabc
WHERE actual_price IS NOT NULL
AND no_of_ratings IS NOT NULL
AND ratings = 5
ORDER BY no_of_ratings DESC, "name" DESC
LIMIT 10;
```

	name	no_of_ratings
1	DIVINE Car Windshield Glass Concentrated Washer Tablets Solid Car Effervescent Tablets Glass Solid Wiper Cleaning Tablets ...	13
2	TEXU name: varchar(128) ssure Washer Machine with Max Pressure (140 to 160) bar and Motive Power 1.7 Kw for Washing car Bike ...	9
3	Rain-X Latitude 5071268 Auto Part, 23 oz (3 Pack)	7
4	Xtra Armor Micro-Tissue 12 X (23x23cm) Microfibre Towels for Home use	6
5	JPT Pressure Washer Coupler, Quick Connect Fittings 1/4 Inch Quick Coupler Female Socket(Pack of 3))	5
6	CAR SAAZ® Upholstery And Carpet Cleaner 380ml for Carpet, Upholstery, Car's Interiors Fabric, Seats Includes applicator	5
7	Roky Mini Foldable Washing Machine, Portable Washing Machine Ultrasonic Cleaning Machine, Folding Mini Laundry, Small Auto...	4
8	MANNOL 9944 Leather Cleaner and Conditioner 450 ML Imported from Germany Premium Product	4
9	brandM Car Washing Sponge with Microfiber Washer Towel Duster for Cleaning Car Bike Vehicle (Pack of 1 PIS)	3
10	Wurth New Paint Polish 1lit	3

Slide 8

select

"name", no_of_ratings

from car_and_bike_care cabc

where actual_price **is not null** and no_of_ratings **is not null** and ratings = 1

order by no_of_ratings desc, "name" DESC

limit 10

	name	no_of_ratings
1	DEBIRE Vacuum Cleaner for Car, High-Power Portable Machine (White/Blue) Multicolored, Pack of 1	4
2	INDOPOWER HDCCC788-CAR Scratch Remover 100gm. All Colour Car & Bike Scratch Remover (Not for Dent & Deep Scratches).	3
3	TEXUM High Pressure Washer Inlet Hose Filter, Suitable for 3/4 inch Pressure Washer Hose, Outdoor Gardening.	2
4	foxcare All in one Combo for car Interior and Exterior Care sprayable Total Interior Cleaner 500ml Polish + sealant 500ml ...	1
5	ZSIGNS Car Duster Microfiber Flexible Duster Car Wash Car Cleaning Accessories Microfiber Brushes Dry/Wet Home, Ki...	1
6	Toriox Water Zoom Jet Power Pressure Washer Lance Garden Hose Attachment with Soap Dispenser and Brush - Ideal for Washing...	1
7	Side Panel for HF Deluxe (Black/Blue)	1
8	STHIRA® Car Duster Microfiber, Car Duster Brush with Detachable Handle, Multi-Purpose Car Cleaning Duster for Exterior Int...	1
9	ST-13 Multipurpose Cycle Motorcycle Bike Chain Cleaner Brush	1
10	PYXBE Car Vacuum Powerful Portable & High Power Car Handheld Vacuum Cleaner for Car and Home Wet and Dry Car Vacuum Clea	1

Slide 9

select

"name", actual_price, ratings

from car_and_bike_care *cab*

where actual_price **is not null** and no_of_ratings **is not null**

order by actual_price **desc**

limit 10

	name	actual_price	ratings
1	RTC Btali Trolley Pressure Washer Heavy Duty 3HP (MAX Pressure : 160 BAR) with Complete Accessories	39,999	2.5
2	Bosch Aquatak 130 1700-Watt High Pressure Washer (Green) with F016800360 6m High Pressure Hose (Bl	22,118	4.3
3	Evapo-Rust ER012 The Original Super Safe Rust Remover - 1 Gallon	20,179	4.6
4	BLACK+DECKER BEPW2200-IN 1700W 2175 PSI 150 Bar Pressure Washer for Car wash and Home use (Rec	17,499	3.8
5	BLACK+DECKER BW15-IN 1500Watt 120 Bar, 390 L/hr Flow Rate Pressure Washer for Car wash and Home t	17,160	4
6	Kortex-Y10D Waterp BLACK+DECKER BEPW2200-IN 1700W 2175 PSI h Motive Power 2800 watt and max Pressur	16,999	3.9
7	Inalsa High Pressure 150 Bar Pressure Washer for Car wash and tion Motor/ Industrial Grade Pressure-135 B	16,995	4
8	Chemical Guys CWS301 Citrus Wash and Gloss Concentrated Car Wash (3.79 L)	16,179	4.6
9	Ballorex (KS-8) 2600 W 150 Bar Pressure Washer / Car Washer with Pressure Control Knob & Accessories.	16,000	3.5
10	Vantro High Pressure Washer with Pressure Control Knob Induction Motor 2300-Watt with 2 Year Warranty	15,999	3.8

Slide 10

select

"name", actual_price, ratings

from car_and_bike_care *cab*

where actual_price **is not null** and no_of_ratings **is not null**

order by actual_price **asc**

limit 10

	name	actual_price	ratings
1	Vista Expert Performance Cloth MG Cleaning Cloth Microfibre Vehicle Cleaner	100	4
2	Telmo Car Shampoo (225 ml)	110	4.2
3	Motomax 2K Car Rubbing Compound, 200 g	120	3.5
4	Truwax All-in-One Multipurpose Liquid Polish Spray (200ml) Provides Extra High Shine to Car & Bike, Home	130	3.2
5	Modicare Advanced Auto Wash Concentrated Shampoo Cleaner for 2 Wheeler, Car & Bike, 250ml	138	3.3
6	Allextrema EXMFRN1 Double-Sided Microfiber Car Washing Mitt Reusable Duster Glove for Wet/Dry Applica	159	4.4
7	3M Polish (100 ml, Orange)	175	3.9
8	Truwax Rubbing Compound 200g	175	3.2
9	Waxpol Tyre Shine Spray Liquid (100 ml)	175	4
10	RESIL VISTA Max Cut & Glaze	185	3.2

Slide 11

SELECT

name,
price_difference AS Price_Difference,
ratings

FROM

car_and_bike_care cabc

WHERE

actual_price IS NOT NULL
AND discount_price IS NOT null
and ratings is not null

ORDER BY

Price_Difference DESC

LIMIT 10;

	name	price_difference	ratings
1	RTC Btali Trolley Pressure Washer Heavy Duty 3HP (MAX Pressure : 160 BAR) with Complete Accessories Orange and Black	12,500	2.5
2	Evapo-Rust ER012 The Original Super Safe Rust Remover - 1 Gallon	11,789	4.6
3	Inalsa High Pressure Washer PowerShot-2100W Powerful Induction Motor/ Industrial Grade Pressure-135 Bar, Max Flow-432 l/h,...	9,120	4
4	Car Vacuum Powerful Portable & High Power Car Handheld Vacuum Cleaner for Car and Home Wet and Dry Car Vacuum Cleaner r Co...	8,800	3.6
5	BLACK+DECKER BW15-IN 1500Watt 120 Bar, 390 L/hr Flow Rate Pressure Washer for Car wash and Home use (Red & Black)	8,737	4
6	Tradhivilla 12V DC Electric Car Washer Pump Portable High Pressure Car Washer Machine Car Washing Accessories Spray Gun Wa...	7,550	3.4
7	Kortex-Y10D Waterproof high Pressure car Washer Machine with Motive Power 2800 watt and max Pressure 180 bar Including All...	7,122	3.9
8	Ballorex (KS-8) 2600 W 150 Bar Pressure Washer / Car Washer with Pressure Control Knob & Accessories.	6,976	3.5
9	Bosch Aquatak 130 1700-Watt High Pressure Washer (Green) with F016800360 6m High Pressure Hose (Black) Combo	6,959	4.3
10	JPT UNDERBODY/UNDERCARRIAGE CAR CHASIS Washer Lance ATTACHMENTS (UNDERBODY Lance with Extension RODS)	6,801	3.6

Slide 12

select

"name", no_of_ratings , ratings

from car_and_bike_care cabc

where actual_price is not null and no_of_ratings is not null

order by no_of_ratings desc

limit 10

	name	no_of_ratings	ratings
1	Mothers 05101 Mag & Aluminum Polish - 10 oz.	12,309	4.7
2	Evapo-Rust ER012 The Original Super Safe Rust Remover - 1 Gallon	10,233	4.6
3	Chemical Guys MIC29202 Premium Grade Microfiber Applicator (Set of 2)	9,509	4.6
4	Meguiar's M105 Mirror Glaze Ultra-Cut Compound - 8 oz.	6,779	4.6
5	Meguiar's Ultimate Liquid Wax - 16 oz.	6,096	4.7
6	Ceramic Blade Mini Cutter-Auto-Retractable	5,524	4.3
7	Chemical Guys CWS301 Citrus Wash and Gloss Concentrated Car Wash (3.79 L)	5,511	4.6
8	Sonax 417300 Application Sponge	4,686	4.4
9	Chemical Guys MIC1995 Gray Woolly Mammoth Microfiber Dryer Towel (36" x 25")	4,680	4.7
10	ChemicalGuys CWS11016 Honeydew Snow Foam Car Wash Soap and Cleanser (473.2 ml)	3,777	4.6

Slide 13

```
select "name", no_of_ratings ,price_difference
from car_and_bike_care cabc
where actual_price is not null and no_of_ratings is not null
order by no_of_ratings desc
limit 10
```

	name	no_of_ratings	price_difference
1	Mothers 05101 Mag & Aluminum Polish - 10 oz.	12309	2,303
2	Evapo-Rust ER012 The Original Super Safe Rust Remover - 1 Gallon	10233	11,789
3	Chemical Guys MIC29202 Premium Grade Microfiber Applicator (Set of 2)	9509	[NULL]
4	Meguiar's M105 Mirror Glaze Ultra-Cut Compound - 8 oz.	6779	1,964
5	Meguiar's Ultimate Liquid Wax - 16 oz.	6096	1,280
6	Ceramic Blade Mini Cutter-Auto-Retractable	5524	[NULL]
7	Chemical Guys CWS301 Citrus Wash and Gloss Concentrated Car Wash (3.79 L)	5511	4,854
8	Sonax 417300 Application Sponge	4686	[NULL]
9	Chemical Guys MIC1995 Gray Woolly Mammoth Microfiber Dryer Towel (36" x 25")	4680	200
10	ChemicalGuys CWS11016 Honeydew Snow Foam Car Wash Soap and Cleanser (473.2 ml)	3777	1,391

Analysis Of
Sales Of Products
on Amazon From
The Car And Bike
Care Category

Main Information

- Name
- Ratings (from 1 to 5)
- Number of ratings
- Discount price (in Indian currency)
- Actual price (in Indian currency)
- Number of product : **960**

Rating Of Products

- Average product rating: **3.77**
- Average number of ratings for all products: **232**
- Total number of ratings for all products: **156 033**
- the number of products that have the highest rating: **80**
- number of products that have the lowest rating: **22**
- the number of products that have one rating: **103**
- number of products that have no rating: **288**

Inventory and Availability Insights: Special Status Products on Amazon

- Number of products where the rating is equal to Get: **13**
- Number of products where the number of ratings is equal to Free Delivery by Amazon: **11**
- Number of products where the number of ratings is equal to **Only 1 left in stock: 2**

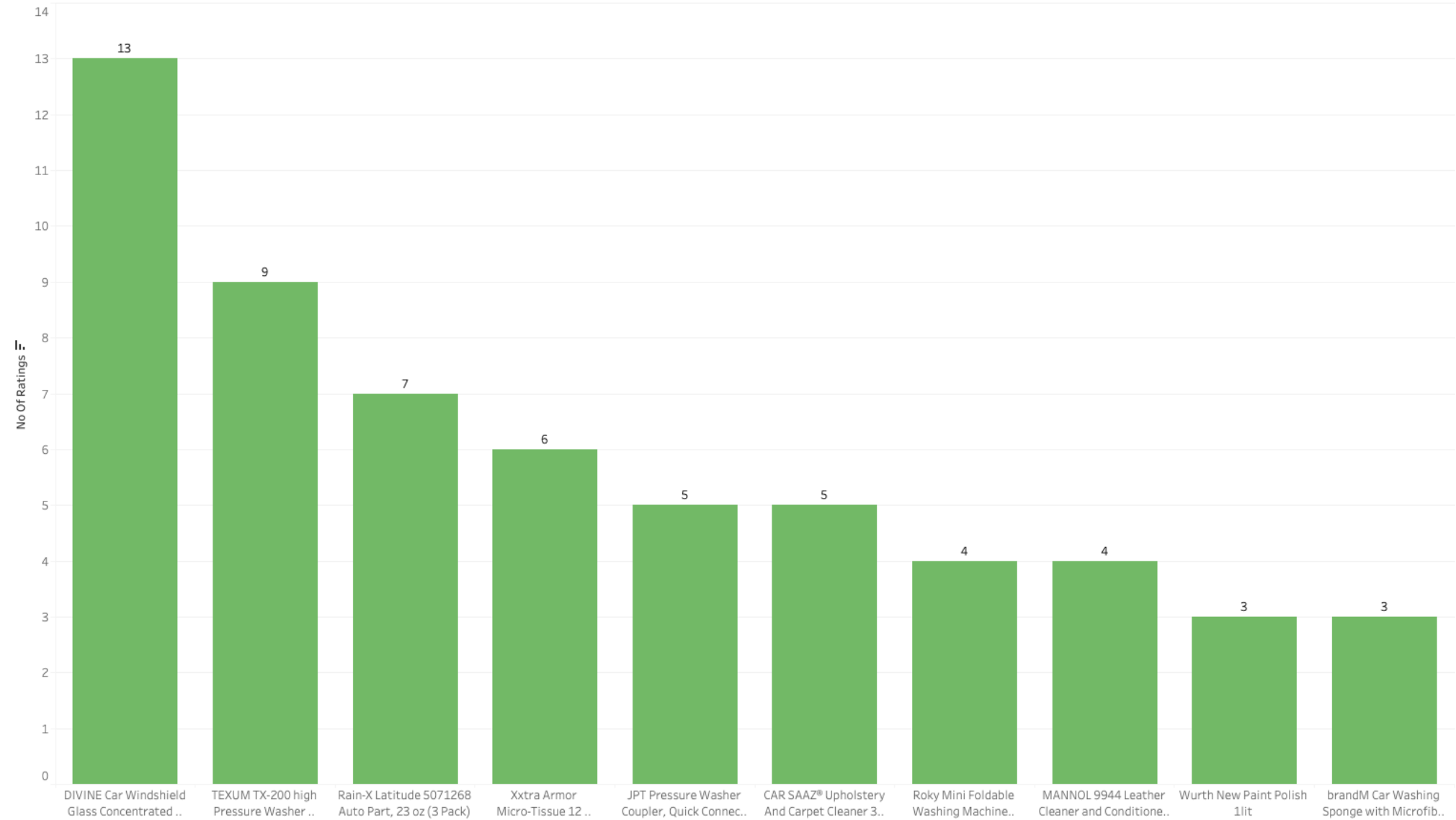
Prices Of Products

- Average actual price all product : **2022.94**
- Average discounts price all product: **1165.38**
- Average discount on all products: **933.99**
- number of products that have no actual prices: **42**
- number of products that have no discount prices: **114**

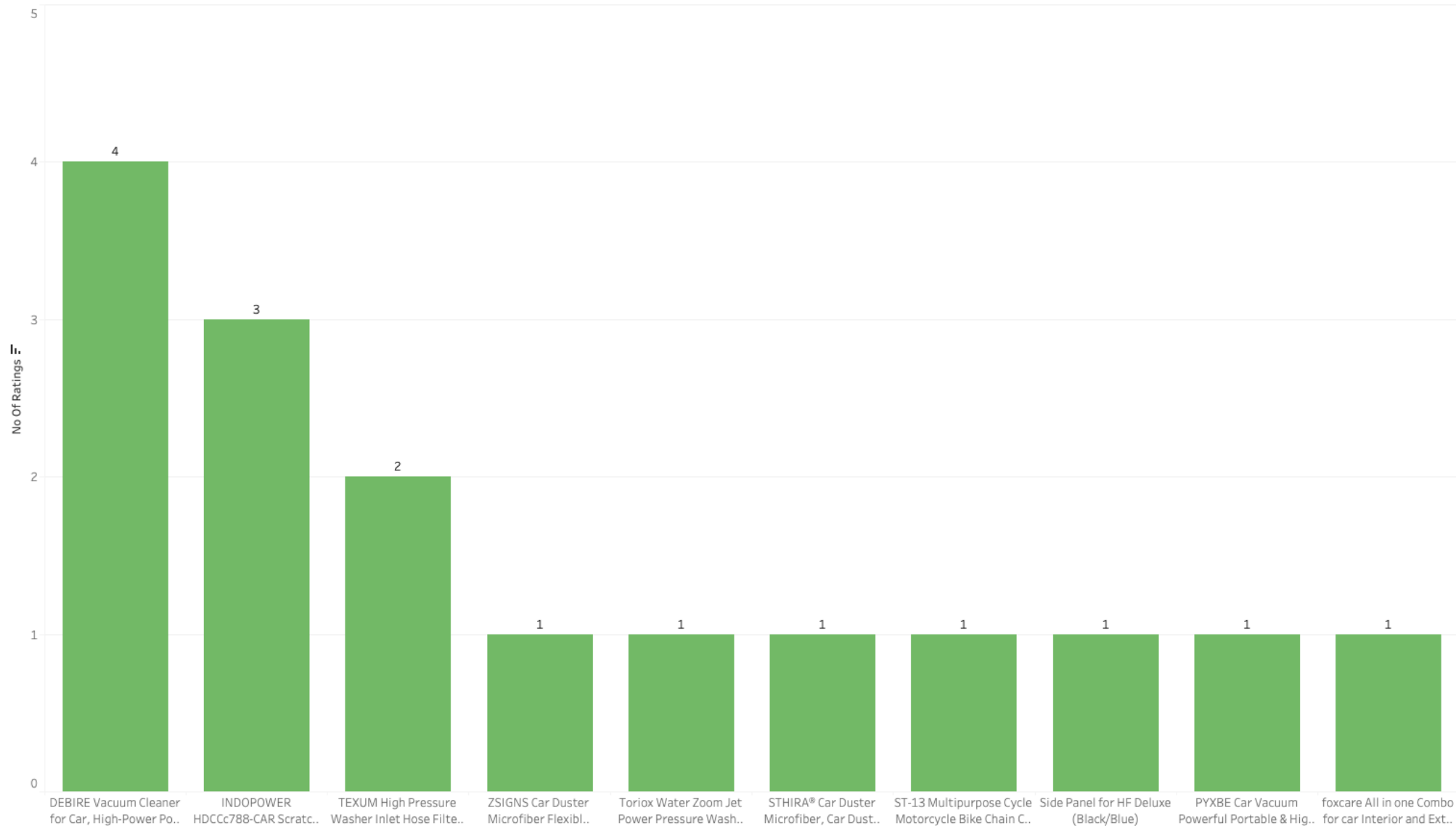
Percentage Share of Product Ratings in Individual Ranges

Section	Quantity	Percentage breakdown of the total
1-2	39	6%
2-3	77	12%
3-4	294	45%
4-5	239	37%

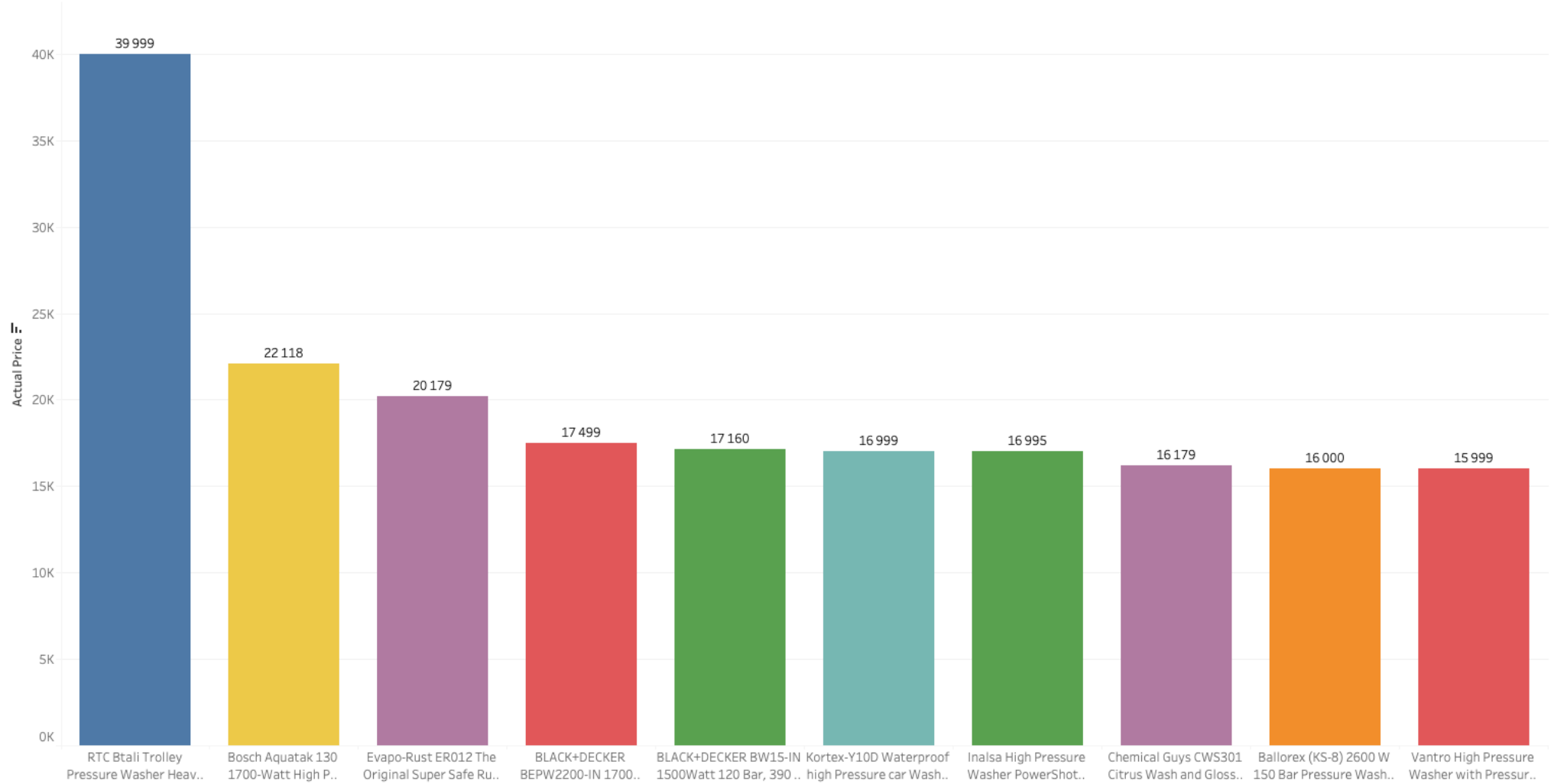
TOP 10 PRODUCTS WITH THE BEST RATINGS



TOP 10 PRODUCTS WITH THE WORST RATINGS



TOP 10 PRODUCTS WITH THE HIGHEST PRICES



Ratings

2,5

3,5

3,8

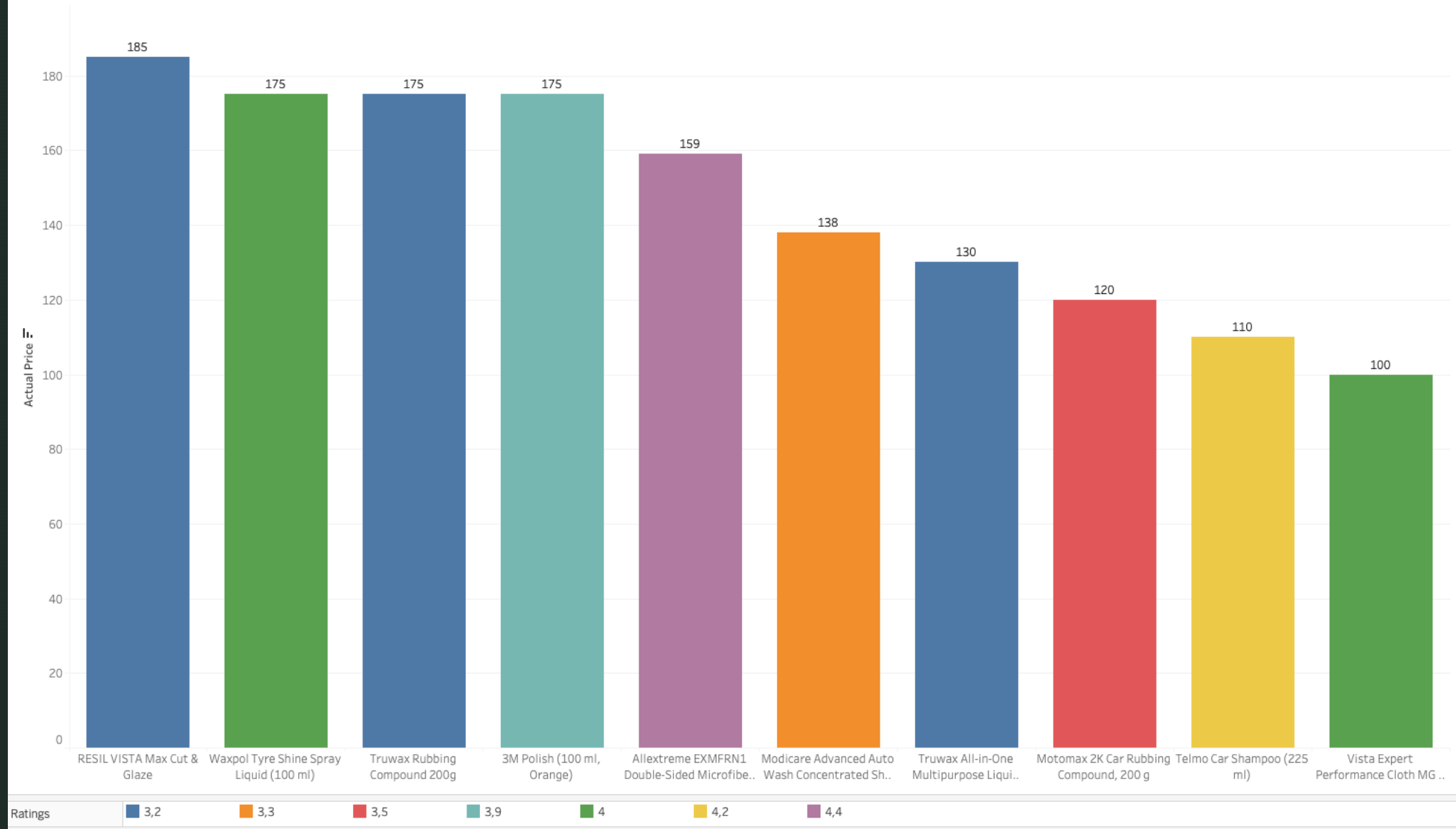
3,9

4

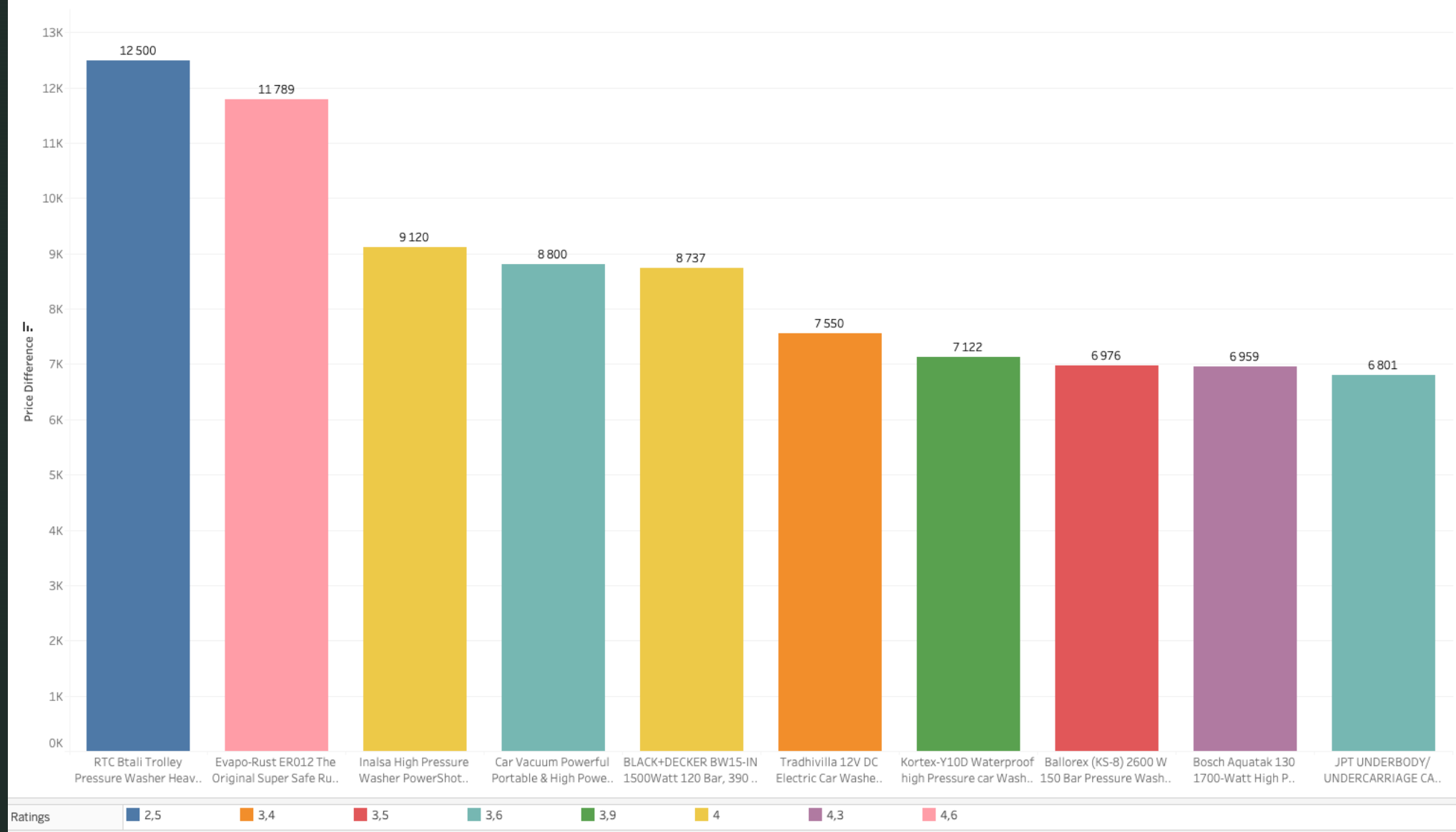
4,3

4,6

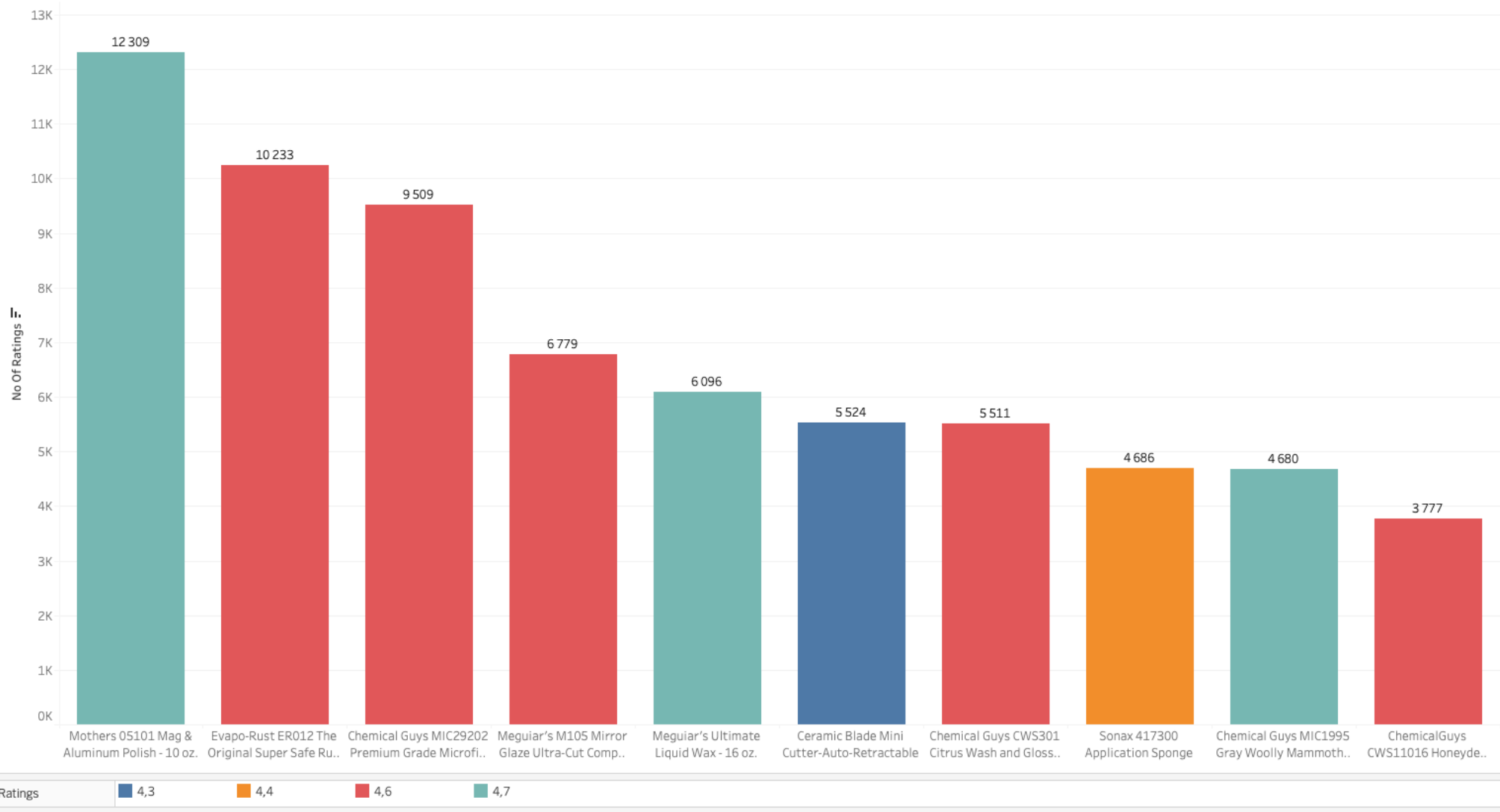
TOP 10 PRODUCTS WITH THE LOWEST PRICES



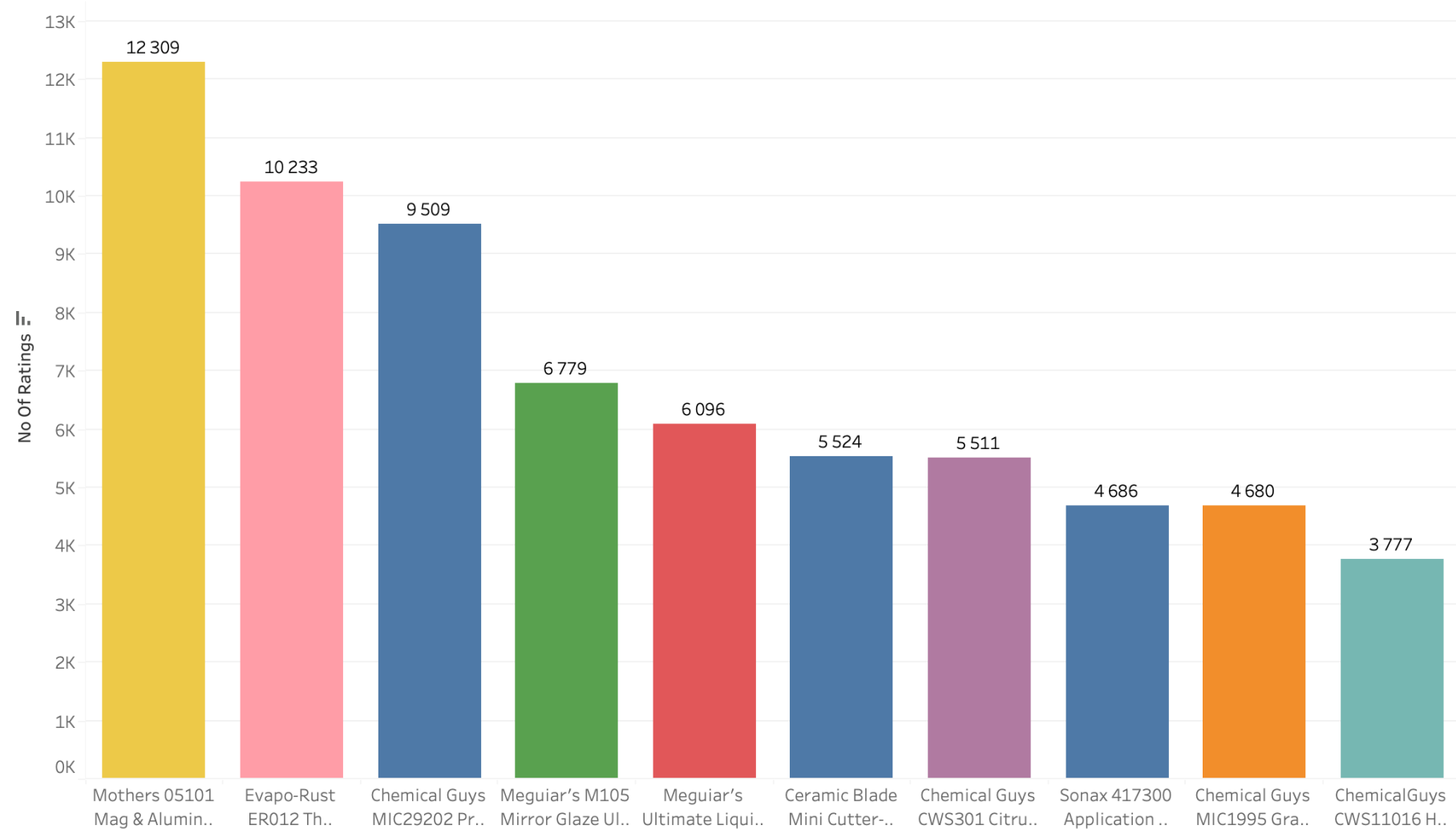
TOP 10 PRODUCTS WITH THE BIGGEST DISCOUNT



TOP 10 PRODUCTS WITH THE HIGHEST NUMBER OF RATINGS



TOP 10 PRODUCTS WITH THE HIGHEST NUMBER OF PRODUCTS AND DIFFERENCE PRICES

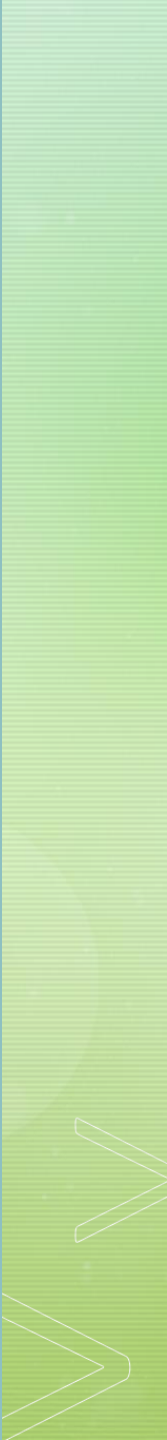


Price Difference





Conclusions

- 288 products have no ratings
 - No correlation between the size of the discount and the number of ratings
 - Over 80% of the product is well received by customers
- 



▼ Thank you!