

Guidance via Product Reviews

An analysis of price and user ratings in a saturated market

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Products and product reviews

- Consumers are “social animals” and base their decision-making process on others’ behavior (i.e. reliable, positive, product reviews or recommendations)
- **The problem:** Wireless headphone products vary in quality, and the review process is not entirely reliable (bots/automated reviews)
- **The landscape:** The market is highly saturated, with multiple possible products, AI bots flooding market with duplicate postings
- **A data-driven solution:** Using webscraping, data-cleaning and visualization, one can try to find headphones on the upper end of quality

Results

Check each product page for other buying options.



[+7 colors/patterns](#)

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Jabra Elite 4 Active in-Ear Bluetooth Earbuds – True Wireless Earbuds with Secure Active Fit, 4 Built-in Microphones, Active Noise...

★★★★☆ 94

\$149⁹⁹

\$0.40 eco fee might apply

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🔊 Alexa Built-in ▾

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Sponsored ⓘ

soundcore by Anker P20i True Wireless Earbuds, 10mm Drivers with Big Bass, Bluetooth 5.3, 30H Long Playtime, IPX5 Water-Resistant, 2...

★★★★☆ 32,361

4K+ bought in past month

\$39⁹⁹

Save \$10.00 with coupon

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JBL Tune Flex - True Wireless Noise Cancelling Earbuds (Black)

★★★★☆ 5,266

200+ bought in past month

Limited-time deal

\$99⁹⁸ List: \$139.98

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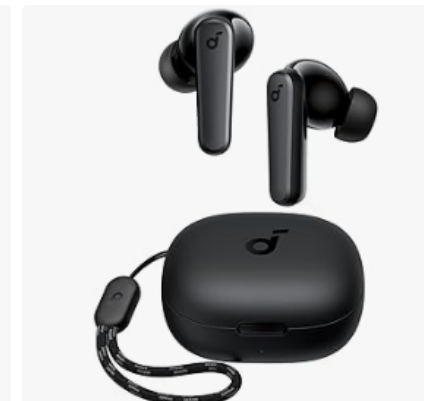
Sponsored ⓘ

Erazers Over The Ear Earbuds Xp2, Eraser Over The Ear Earbuds, Eraser True Wireless Open Ear Earbuds with LED Display, High Sound Quality,...

\$63⁹⁹

\$5.54 delivery **Oct 17 - Nov 6**

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soundcore by Anker P20i True Wireless Earbuds, 10mm Drivers with Big Bass, Bluetooth 5.3, 30H Long Playtime, IPX5 Water-Resistant, 2...

★★★★☆ 32,361

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\$39⁹⁹

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FREE delivery **Sat, Sept 28**

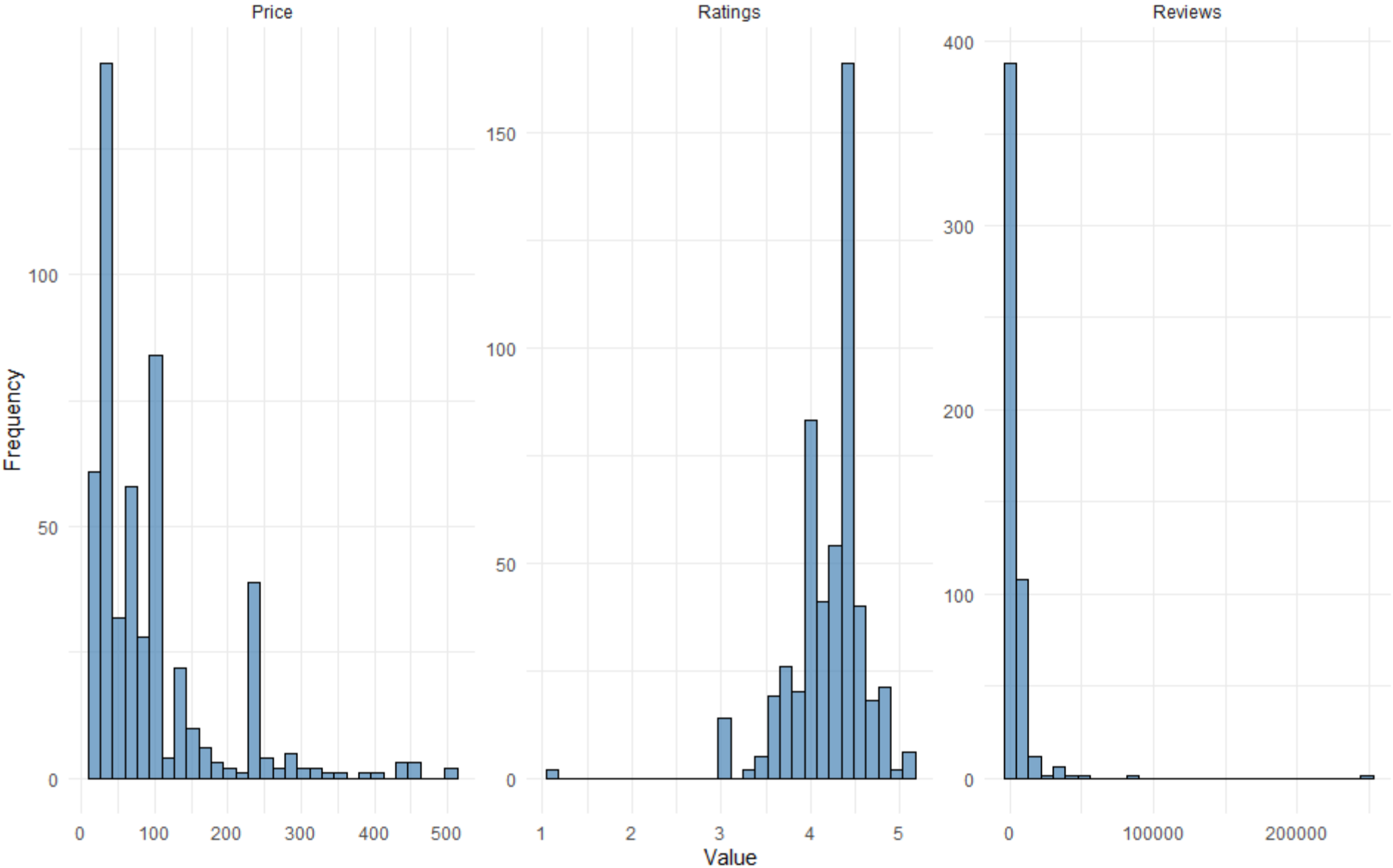
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Solution: Step 1

- Scraped data from “True wireless headphones” products on Amazon.ca for the first 15 pages, collecting: Price, Average Star Rating, Number of Reviews (n = 519; products/observations)
- Visualized data using histograms; some skewed data in pricing, and outliers in Ratings and Reviews

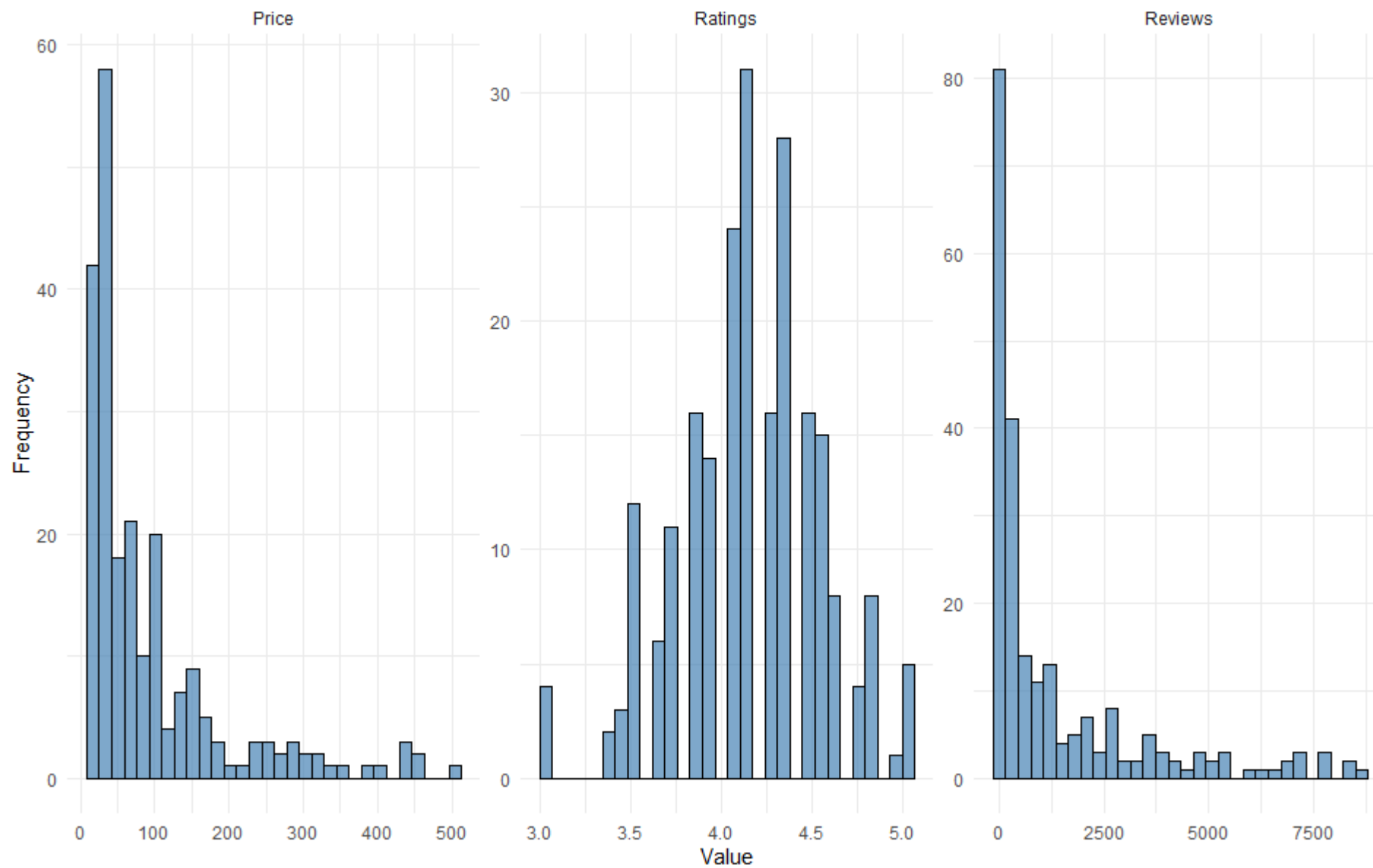
Histograms for Price, Reviews, and Average Rating of True Wireless Headphones



Solution: Step 2

- Removed outliers and duplicates from the data (Reviews > 9,000, Star rating less than 3/5, n = 224)
- Analyzed central tendencies;
 - Reviews
 - Mean # of reviews = 1366
 - Mode = 1 or 4 reviews (next highest number of reviews is 1079, and 58)
 - Median = 336 reviews
 - Price
 - Mean price = 92.85
 - Mode prices = 39.99 or 69.99
 - Median price = 49.99
 - Ratings
 - Mean rating = 4.16
 - Mode rating = 4.15 or 4.35
 - Median rating = 4.15

Histograms for Price, Reviews, and Average Rating of True Wireless Headphones



Solution: Step 3

- Apply desired filter (n = 50);
 - Assuming price is not main factor (though in many cases it is)
 - Higher than median number of reviews (*mean is not reliable as it is categorical and not a continuous variable*; more than 336 Reviews)
 - Average Product Rating higher than 4.16

Wireless Earbuds, Bluetooth Ear Buds HiFi Stereo Headphones Bluetooth 5.4 with 4 ENC Mic, 2024 New Wireless Headphones in Ear, 30H Noise Cancelling Earphones for Android/iOS, IP7 Waterproof, USB-C	869	35.99	4.85
Wireless Earbuds Sport, Bluetooth Headphones 5.4, HiFi Stereo Ear Buds, ENC Noise Cancelling Mic Headphones, 50H Dual LED Display Earbuds, in Ear Earphones with Earhooks, for Running/Fitness/Workout	934	39.99	4.85
Wireless Earbuds, Headphones Bluetooth 5.3 with HiFi Stereo Sound, Bluetooth Earbuds with 4 ENC Noise Canceling Mics, 56 Hrs Playtime in Ear Earphones, USB-C, IPX7 Waterproof Ear Buds for iOS/Android	2189	39.99	4.85
Wireless Earbuds, 2024 Bluetooth 5.3 Headphones HiFi Stereo Ear Bud, 40Hrs Playtime Bluetooth Earbuds with 4 ENC Noise Cancelling Mics, IP7 Waterproof, LED Display Wireless Earphones for Android/iOS	2713	39.99	4.85
Wireless Earbuds, 2024 Bluetooth 5.3 Headphones with 4 ENC Noise Cancelling Mic, 40H Bluetooth Earbuds Deep Bass with LED Display, IP7 Waterproof Earphones Wireless for Android iOS Touch Control White	340	29.99	4.75