

## 2. Visualize results & extract insights.

### What patterns did you discover?

- **Top terms** in the heatmap: *'battery', 'camera', 'great' and 'screen'* showing frequent themes across reviews.

### What insights can be derived from your analysis?

- **Positive word cloud** emphasized: *'great', 'camera', 'battery', 'quality'*.
- **Negative word cloud** showed: *'device', 'screen', 'issue', 'video'*.
- **Neutral word cloud** was less focused, with more general or balanced terms.
- **Sentiment distribution chart** shows:
  - Majority of reviews are **positive**
  - Followed by **negative** reviews
  - Few reviews are **neutral**

### Insight from Word Cloud Analysis:

#### Positive Sentiment Word Cloud

Key terms: **'great', 'camera', 'battery', 'quality'**

- **"Camera"**: Suggests high satisfaction with photo or video capabilities — a standout feature contributing to positive reviews.
- **"Battery"**: Indicates good battery life is a strong point and valued by users when it performs well.
- **"Quality"**: Likely refers to both build and overall user experience, reinforcing a premium feel or reliability.
- **"Great"**: A general positive adjective, commonly used when users are very satisfied overall.

Analysis: Users tend to praise the **camera performance, battery reliability, and product quality**. These are likely **top reasons for customer satisfaction** in newer iPhone models.

## Negative Sentiment Word Cloud

Key terms: 'device', 'screen', 'issue', 'video'

- **"Device"**: Vague but often used in complaints when users experience multiple problems — indicates **general hardware or software concerns**.
- **"Screen"**: Could imply fragility, touch response issues, or display defects — a specific pain point.
- **"Issue"**: A general indicator of problems, reinforcing those users faced **unexpected performance or reliability concerns**.
- **"Video"**: If appearing in a negative context, could mean problems with recording, playback, or video quality — possibly tied to camera features.

Analysis: Users who are dissatisfied most often mention **hardware defects (screen), device malfunctions, or issues related to video capture/playback**. These are likely **reasons for returns or complaints**.

### Combined Insight:

- **Positive drivers**: Camera, battery life, and product quality.
- **Negative triggers**: Device issues, screen problems, and video-related complaints.

This pattern provides valuable insights for Apple or relevant product teams by identifying areas of strength such as camera performance and battery life that should be further enhanced, as well as highlighting areas requiring attention, including screen durability and issues related to video functionality.

### Do the results answer your original research question?

Yes, the sentiment analysis effectively answers the research question. By examining patterns in positive and negative customer reviews, the analysis reveals clear user preferences and areas for improvement. Features such as the camera, battery life, and overall quality are consistently praised, indicating they are key drivers of customer satisfaction and should be prioritized in future models. Conversely, recurring negative mentions of screen issues, device reliability, and video functionality highlight critical areas that require further investigation and enhancement. These insights offer actionable guidance for Apple's product development and customer support strategies.