Improving the First Stage of the User Lifecycle

Push Notification Open Rate Analysis

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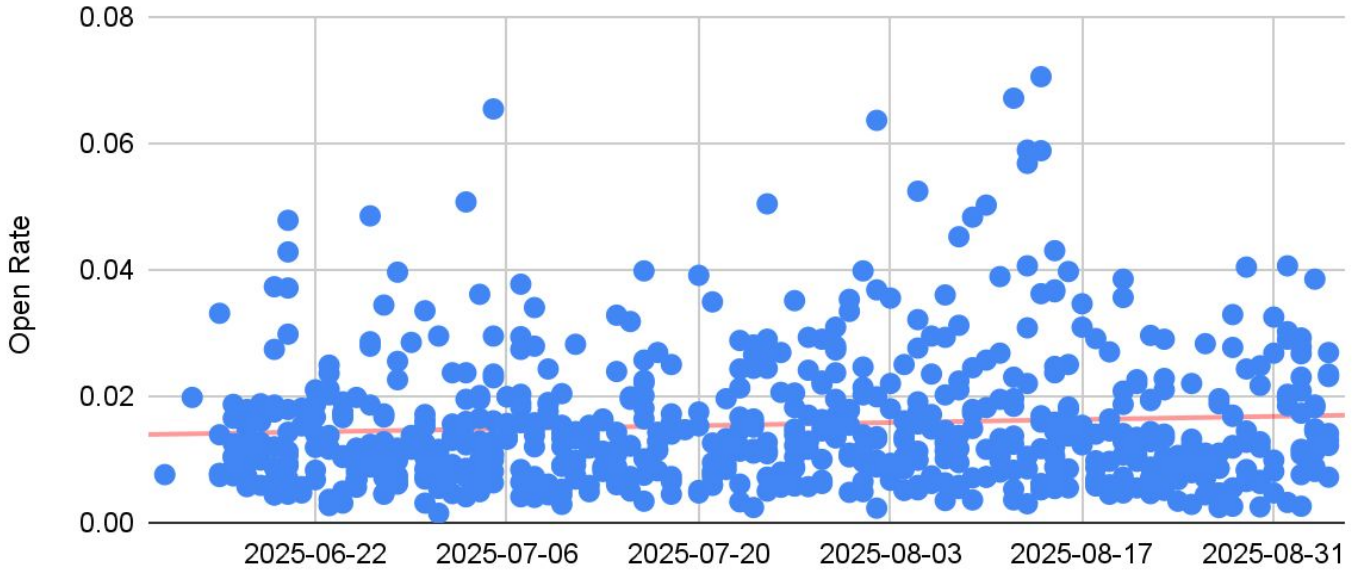
Overview

What do we currently see with push notification open rates?

From June to August, we did **not seen significant improvement** in our open rate percentage on push notifications. In order to create change in this category, we tracked over 10 variables including **character/word counts**, **tone**, **style**, and **image preference**.



** Android App data was not factored into this analysis due to confounding variables with the new app release issues

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01 Character/Word Counts

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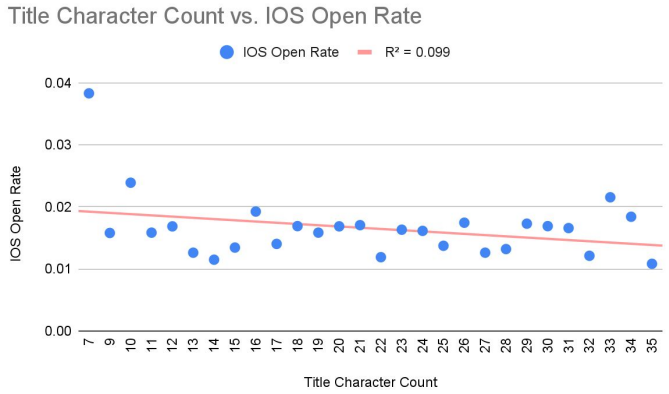
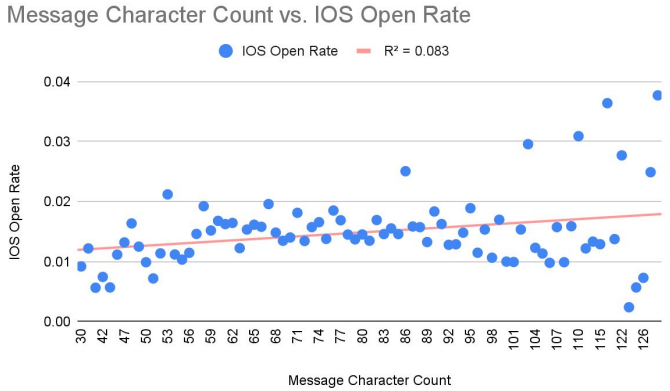
Character Counts

What role does the character count play in the open rate?





From a purely quantitative perspective, we see our **title text perform better at smaller character counts** and **message text perform better with higher character counts**.

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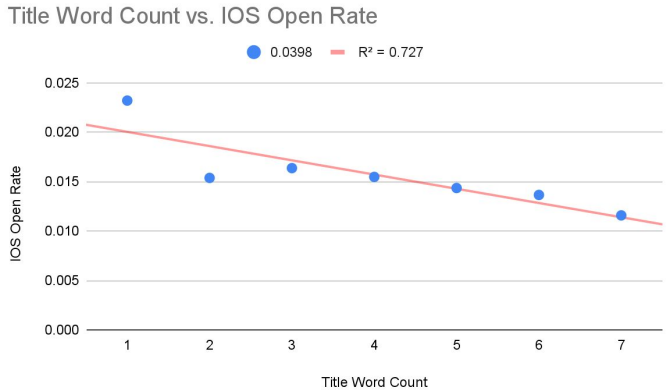
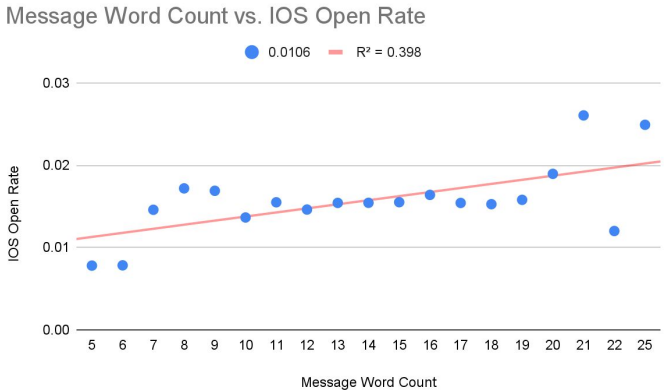
Word Counts

What role does the word count play in the open rate?





Similar to the character count, we see our title **text perform better at smaller word counts** and **message text perform better with higher word counts**.

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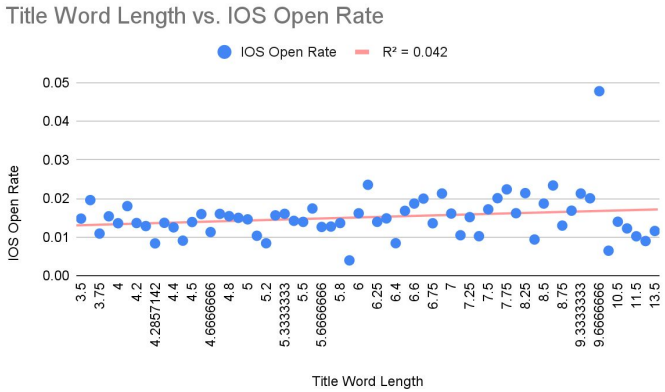
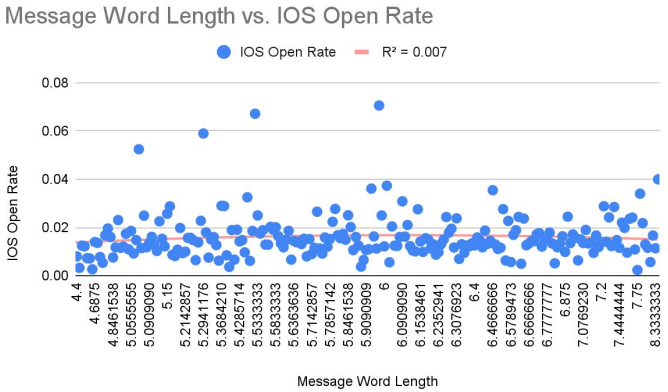
Word Lengths

What role does the word length play in the open rate?





Combining these two counts together, we can also examine the effect of word lengths on the open rate.

While we don't see strongly correlated data in this category, we gain more insight into the complexity of our language as we dive deeper into style and tone of our push notifications.

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02 Text Style

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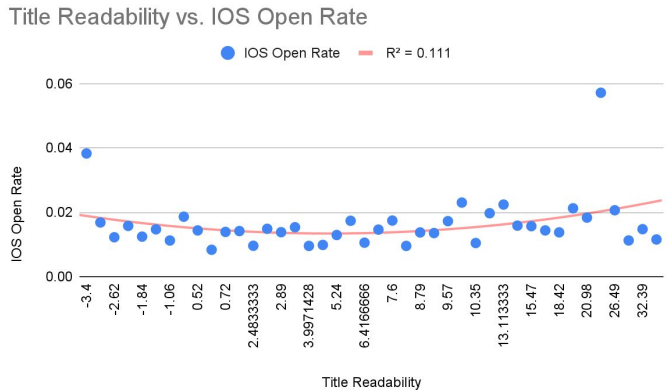
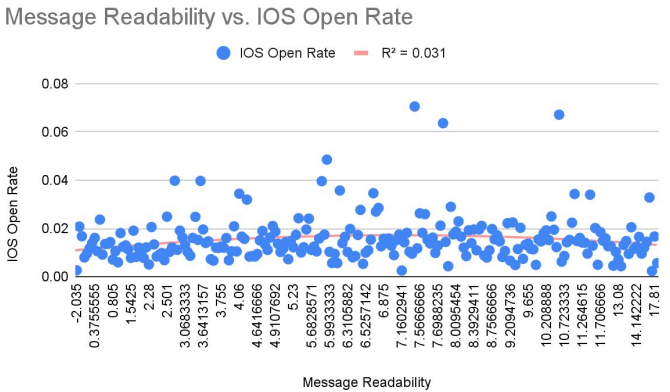
Readability

What role does the reading grade level play in the open rate?





Using the Flesch-Kincaid Grade Level Test, we assigned a readability score to each title and message that was reflective of the U.S. school grade needed to understand the text. While you might not actually need the level of education indicated to understand the text, it still provides a good point of reference to assess readability based on word and syllable counts.

The results of this test proved to be inclusive.

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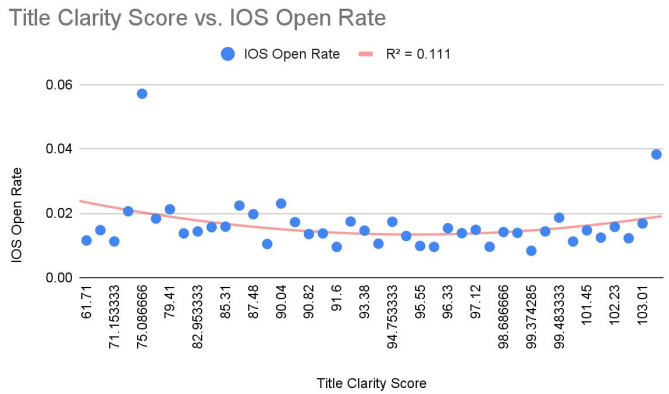
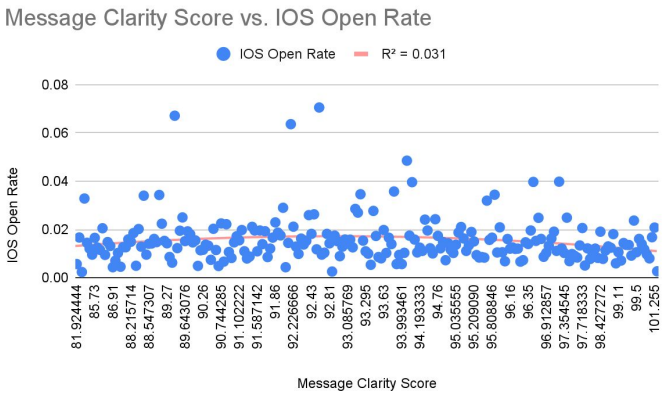
Clarity

What role does clarity play in the open rate?





Again using the Flesch-Kincaid Grade Level Test, we assigned a clarity score to each title and message.

The results of this test also proved to be inclusive.

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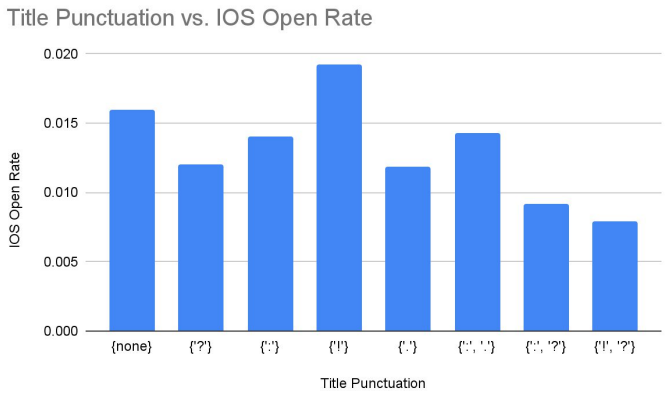
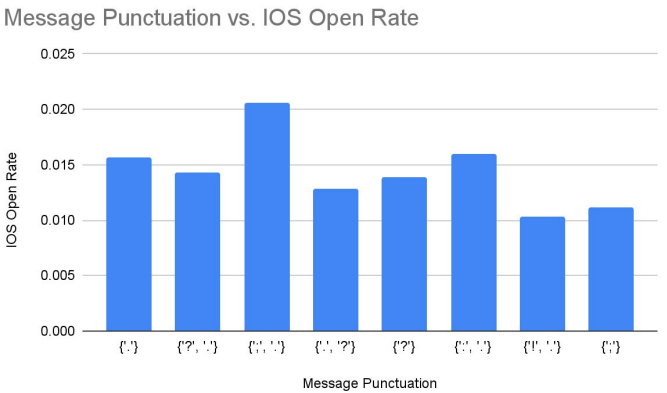
Punctuation

What role does punctuation play in the open rate?





Splitting up, our titles and messages by which punctuation they use we see some interesting patterns.

For **titles**, we see the best open rates (around ~1.9%) when we use **exclamation marks**. Outside of this we see that it may be better to not use punctuation in the title, if it's not an exclamation mark.

For **messages**, we see the best open rates (over 2%) when we use a combination of **periods and semicolons**. Exclamations are actually the worst performer in messages and question marks also decrease our open rate.

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03 Text Tone

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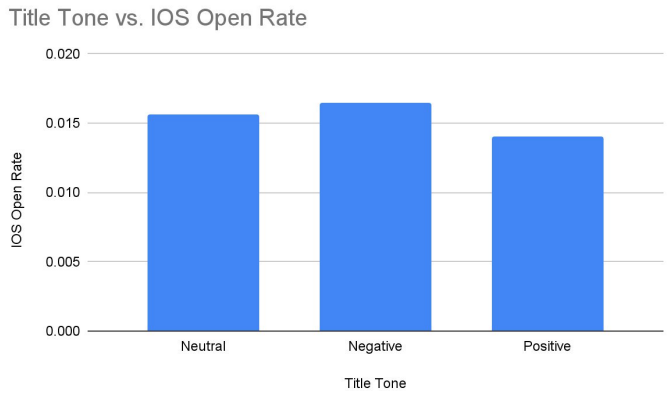
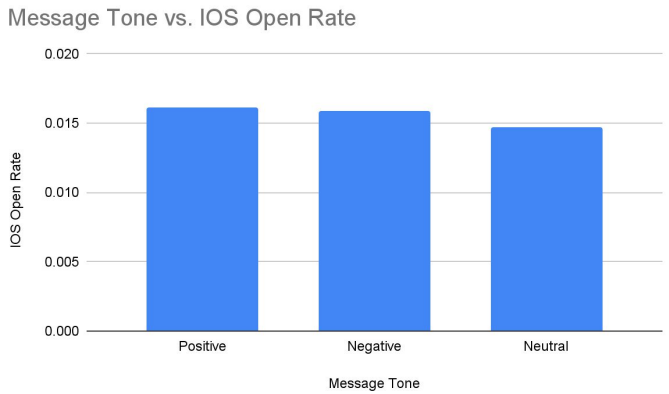
Sentiment

What role does sentiment play in the open rate?





Running notification text through a natural language processing tool, we were able to assign each title and message to a different sentimental score, which we then divided up into positive, negative, and neutral tone of voice.

For **titles**, we see they **perform better with negativity**. For **messages**, we see that **more emotional attachment**, either positive or negative, gives it its best chance at increasing its open rate.

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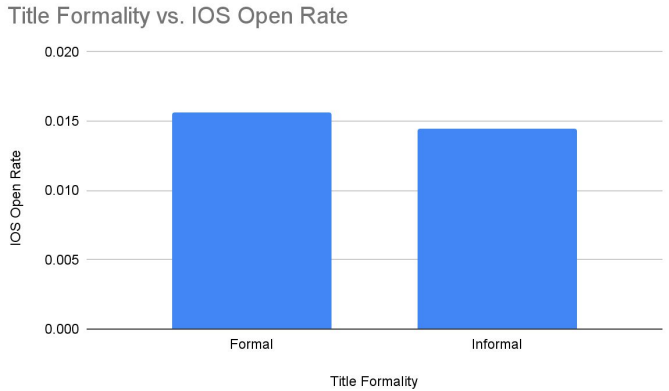
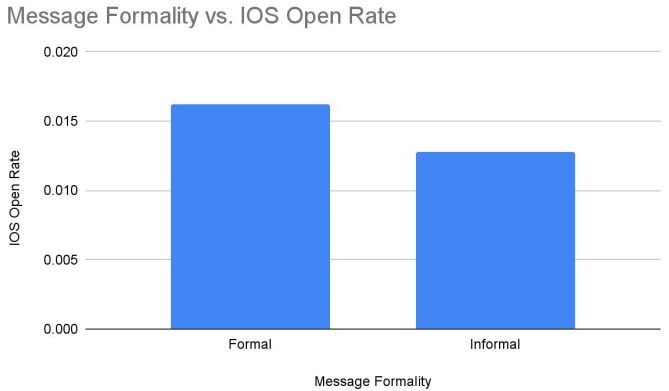
Formality

What role does formality play in the open rate?





Reading through our titles and messages, we flagged text as informal if it used any of the following: "hey", "yo", "!", "gonna", "wanna"

For **both titles and messages**, we see that they **perform better without this relaxed language**.

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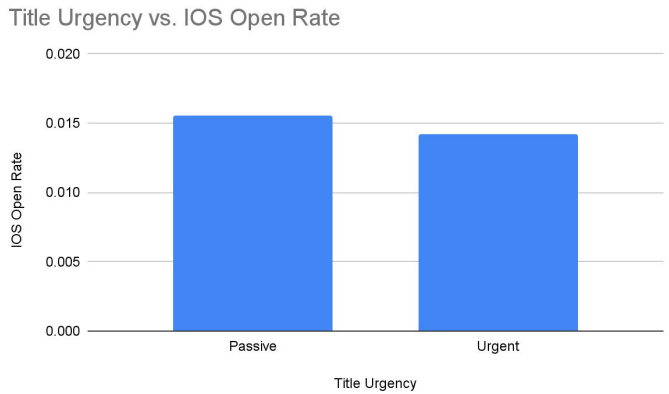
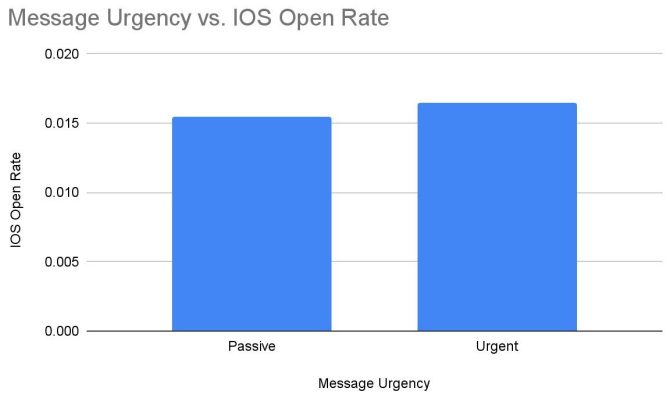
Urgency

What role does urgency play in the open rate?





Again reading our push notification text, we flagged it as urgent if it used any of the following: "now", "urgent", "immediately", "hurry", "alert"

For **titles**, we see they **perform better with a more passive voice**, but there is **not much change** in the open rate when it comes to **message urgency**.

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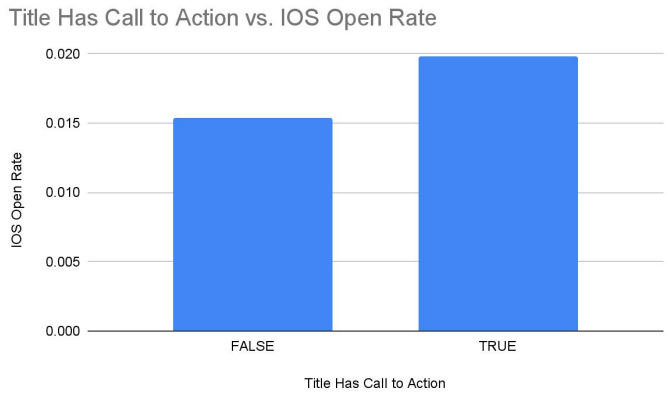
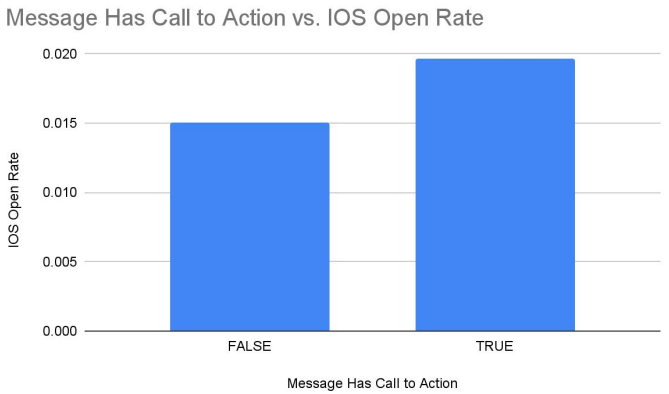
Call To Action

What role does a call to action play in the open rate?





Again reading our push notification text, we said that it qualified as a call to action if it included any of the following: "click", "learn more", "sign up", "watch", "read more", "join", "tap"

For **both titles and messages**, we see a **33% increase in the open rate when they call users to action**.

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04 Image Preference

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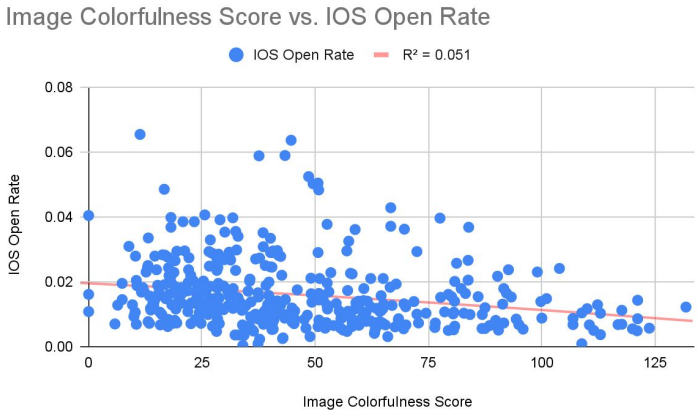
Colorfulness

What role does image colorfulness play in the open rate?



Based on research published in The International Society for Optical Engineering, the human perception of colorfulness is strongly influenced by the chromatic opponent channels, specifically the red-green (RG) and yellow-blue (YB) axes. Using this, we can assign an empirical score to this colorfulness or pop factor.

When we do this for our notifications with images, we actually see a **negative correlation** between this pop factor and the open rate. This indicates that it is **better to keep it simple** with these graphics.

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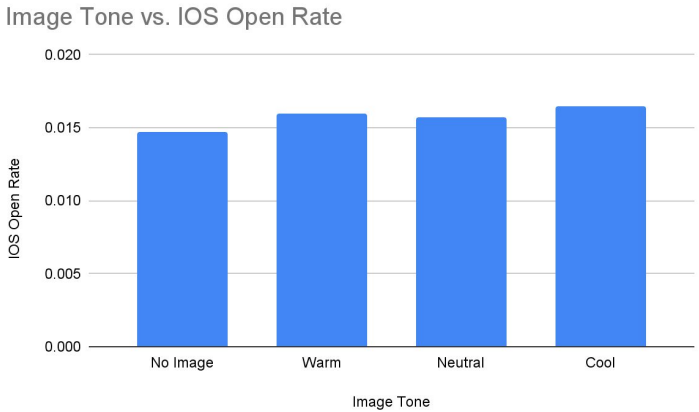
Warm vs. Cool

What role does image tone play in the open rate?



By analyzing the average hue of our attached images, we are see how this image temperature affects the open rate.

Our results point towards **warm and cool colors doing better than neutral tones**.

It should also be noted that no matter the image tone, **the presence of a graphic increases our open rate**.

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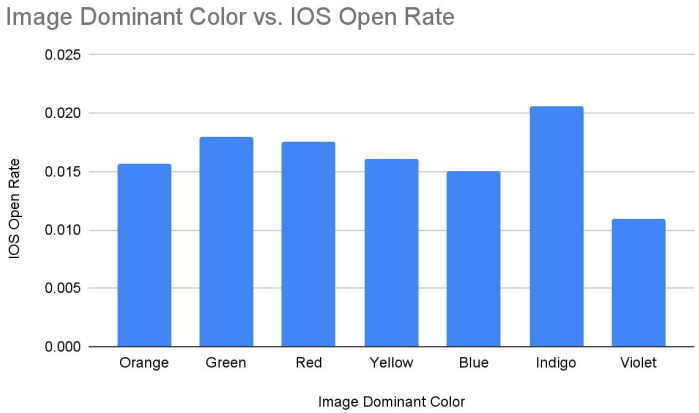
Dominant Colors

What role do certain colors play in the open rate?



Again by analyzing the average hue of our attached images, we are able to determine the dominant color of graphic.

Some of our high performers in this list are **Indigo, Green, and Red**, while other like Violet and Blue rank lower.

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05 Final Review

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Push Notification Open Rate Analysis

For other details, please reference the GitHub repository.

Parker W. Pape
Content Data Analyst Intern
parker.pape@weather.com

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