



moengage

# Push Notifications Delivery Report

A report on factors that impact delivery rates



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# Note to marketers

We live in a mobile-first world. Day or night, we can't help checking our smartphones. According to a Google report, over two-thirds of smartphone users check their phone within 15 minutes of waking up. As smartphones continue to shape lifestyles and consumer behavior, companies across verticals are using push notifications to get noticed and get ahead. In this report, we analyzed our client data to understand the factors that affect the success of push notifications and their delivery rates. Our data source includes campaigns run by MoEngage customers across 35+ countries who use the platform to drive their push notification campaigns.



# What are push notifications?

**Push Notifications** are short pop-up like messages used by companies to get the attention of customers, commonly through web browsers or apps. Mobile push notifications are a great way to drive user engagement. Companies use mobile push notifications to send targeted, relevant messages based on specific customer behavior.

## Why use mobile push notifications?

As per Google, nearly **2/3** of smartphone users are likely to purchase from companies whose mobile sites or apps customize information to their location. Through push notifications, companies can send highly personalized messages to users based on their location, time, and activity. This level of personalization improves engagement and drives the net lifetime value from each customer.



App opens influenced by push notifications



CTR observed for push notifications campaigns



E-commerce conversions driven by push notifications

# What are the types of mobile push notifications

Users have different needs at different points of their user journey. Different types of notification work at different points of the user journey. As a beginner, users seek more information on how to use an app. As they explore the app, they may be interested in updates that are relevant to their specific needs. The right kind of push notifications can help marketers nurture new users into power users successfully.

Here are some types of push notifications that are commonly used by brands to converse with their users:



Informative notifications



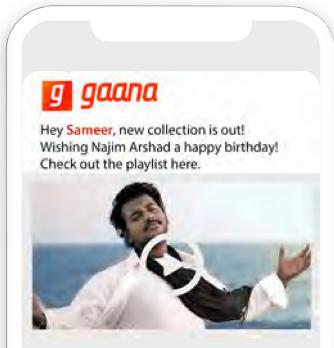
Geolocation notifications



Re-engagement notifications



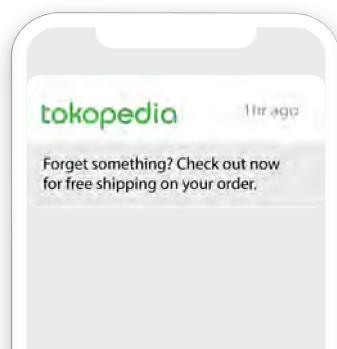
Offers and promotional notifications



Recurrent push notifications



Notification for ratings



Order notifications



Transaction alerts

# Why some of your push notifications are not delivered?

Not all push notifications that you send reach your users. The average delivery rate for iOS notification was observed to be around 85%. This means that if we successfully send notifications to 100 users on iOS 10 and above, only around 85 users end up receiving the notification.

15 out of 100 push notifications sent are not delivered on iOS devices.

While cloud messaging platforms like GCM (Google Cloud Messaging) accept all notifications, it fails to send them to devices that are inactive or not connected to the internet. The notifications that are successfully sent to GCM are not delivered to the end users due to a multitude of factors like OEM restrictions, network issues, and other factors that cut off the device from GCM service.

## Factors that impact delivery rates

To understand why notifications successfully sent to GCM are not delivered to all users, we analyzed our client data including sent numbers and notification impressions from devices of the client. Post analysis across clients from various verticals, we divided our results into two themes:

**1) User activity:** To understand if there is a correlation between the user activity (how recently your user visited your app) and the notification deliverability.

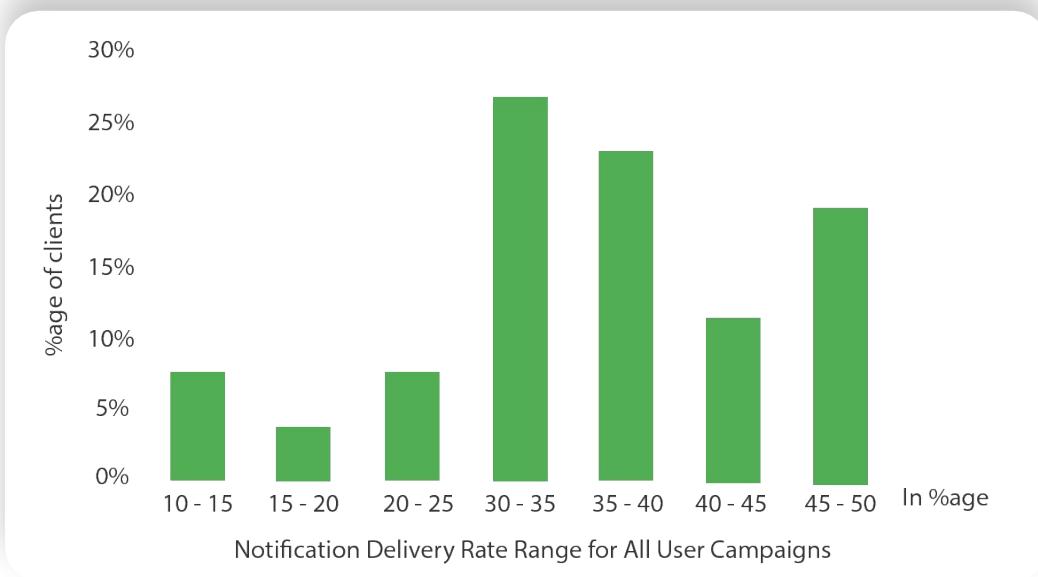
**2) User device:** To understand if there is a correlation between the device model (Mobile device used by your users) and the notification deliverability.

In addition to these, we found that other factors like device connection stage, and campaign send times also impacted the delivery rates

# Impact of user activity on delivery rates

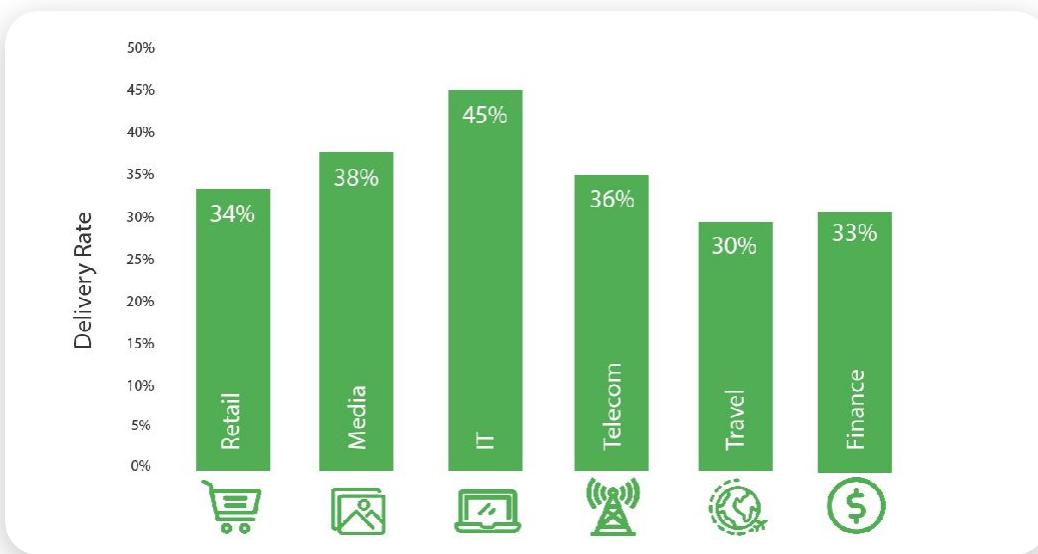
## 1) Overall delivery rates

From our analysis across clients from different business verticals (Retail/Media Entertainment/Travel etc.) and geographies (India and SEA), we found that the delivery rates for **All User Campaigns** (a broad, unsegmented campaign) were lower and in the range of **14% to 48%**.



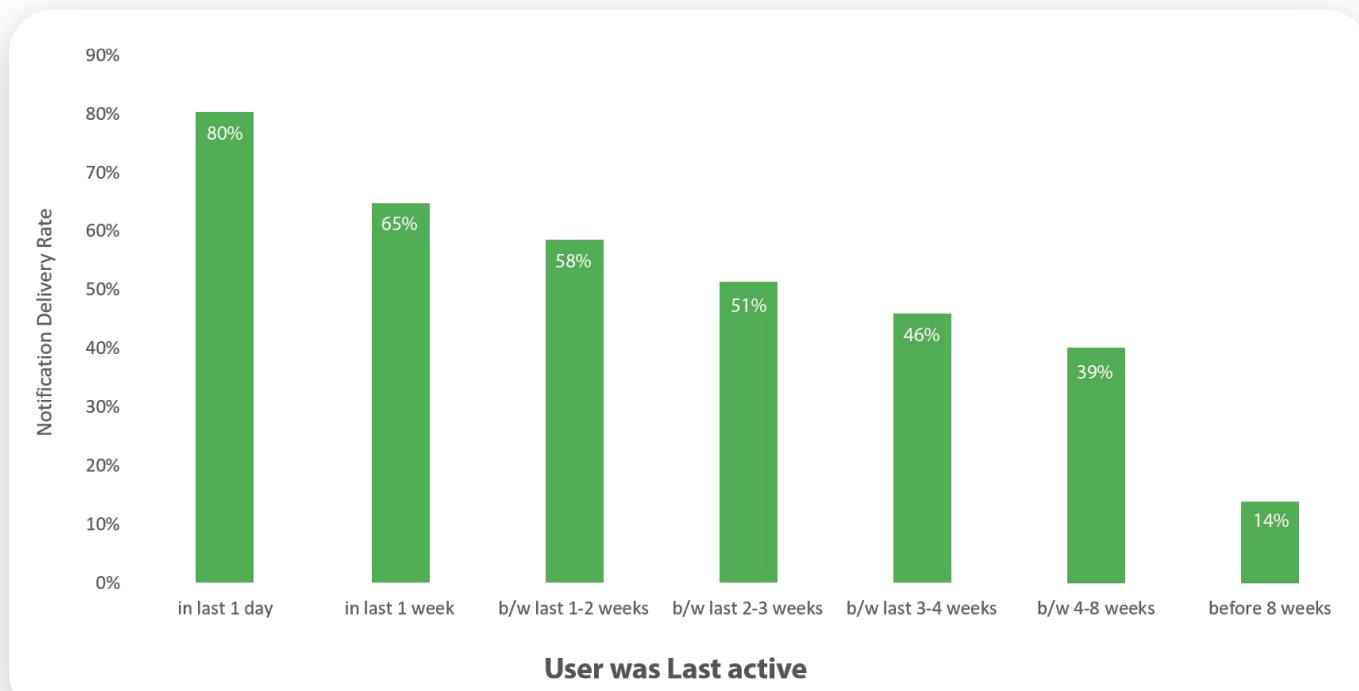
## 2) Delivery rates based on business vertical and frequency of app usage

Delivery rates vary greatly based on the type of app and its usage. This is primarily because different businesses have different use cases around user's Recency and frequency. Some apps are used more often than others. This has a significant impact on the push notification delivery rates. For instance, in our study, we found that media and IT apps have better delivery rates compared to other apps.



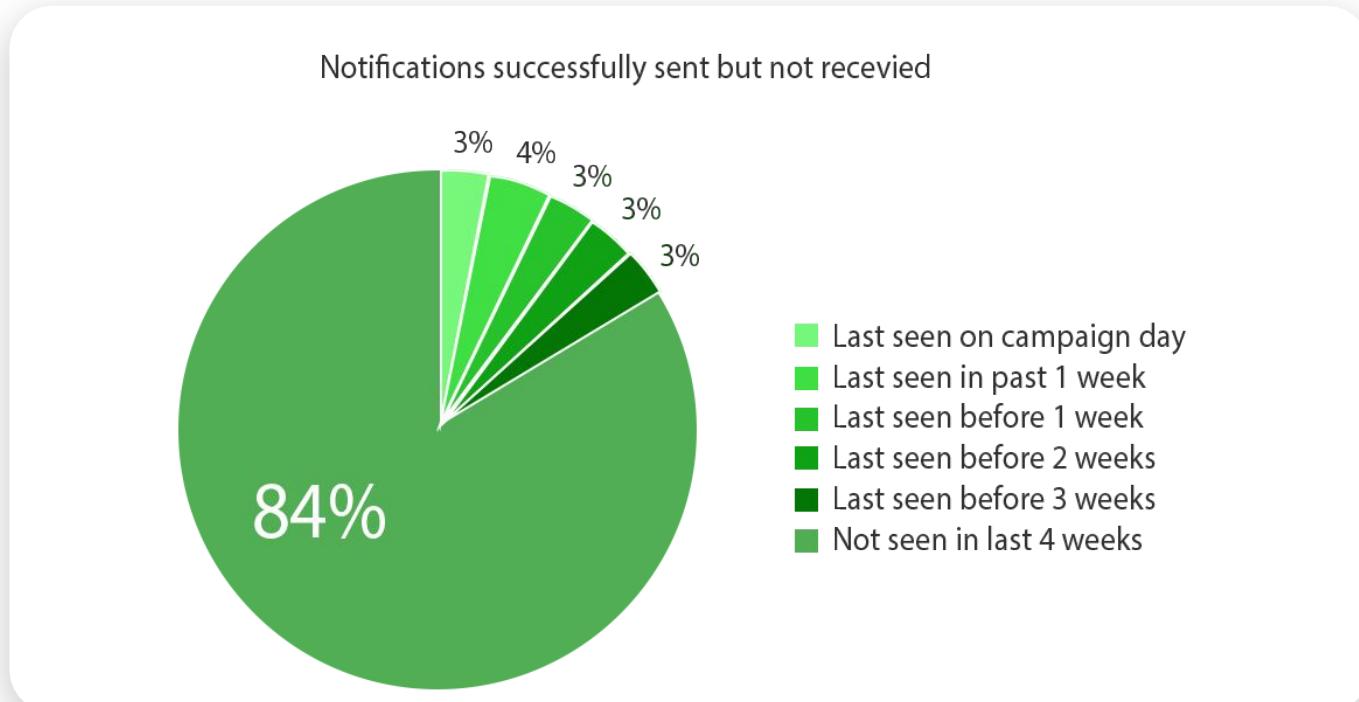
### 3) Impact of user's last activity on delivery rate

There is a direct correlation between the activity of the user and the push notification delivery rate. The highest delivery rate of over 80% was observed for users who were active in the last **24** hours.



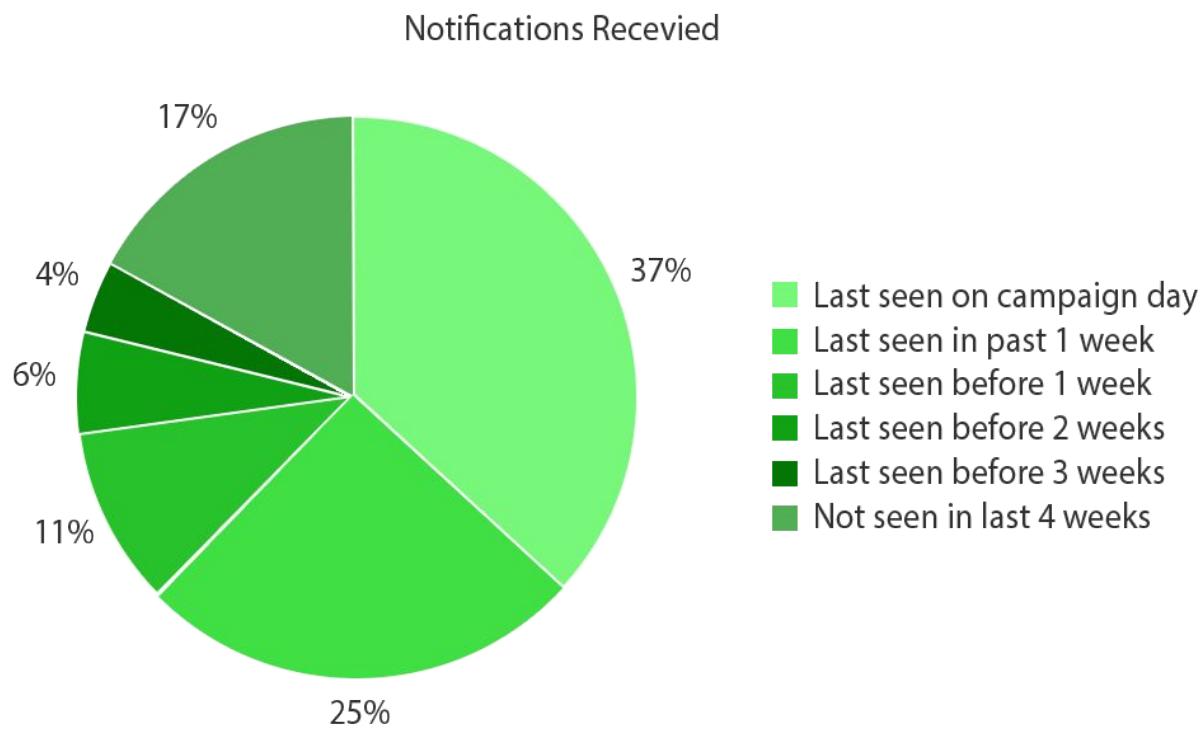
### 4) As the duration of inactivity increases, the reachability decreases

Around 84% of the people who did not receive the notifications were not active for the past 4 weeks. As the duration of inactivity increases, the reachability decreases i.e. GCM might not be able to reach and deliver notifications to these users.



## 5) Recency also increases the reachability

We ran an analysis for users who actually received the notifications which also indicated that recency increases reachability. Of all the people who successfully received the notifications, around **73%** were seen active in the past 2 weeks.

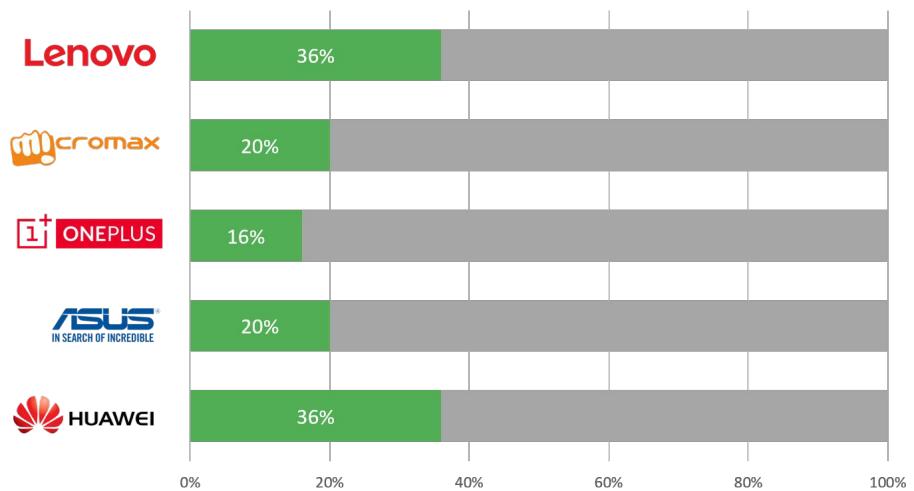
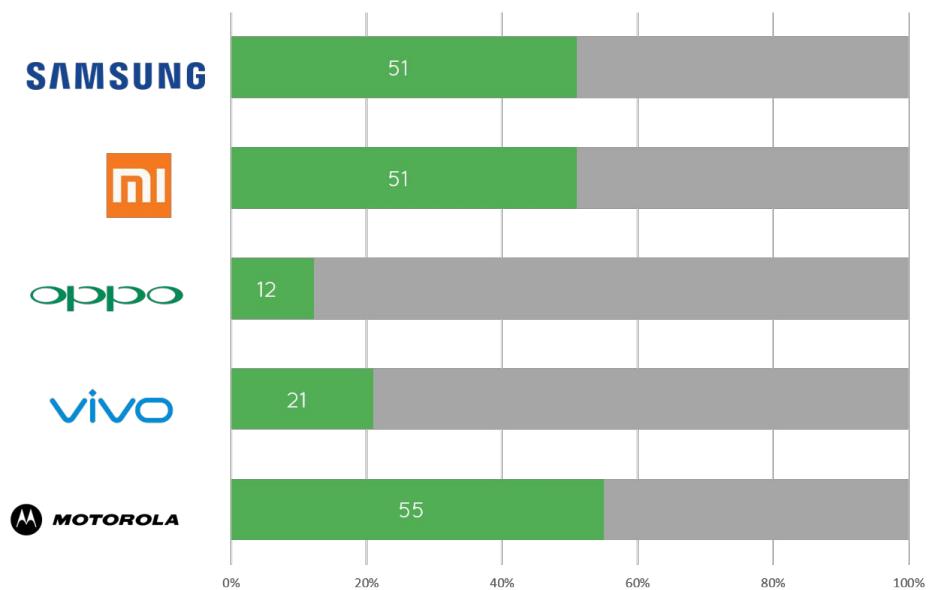


## Impact of the device on delivery rates

For the study, we analyzed the performance of all campaigns based on location, device model, OS, and network.

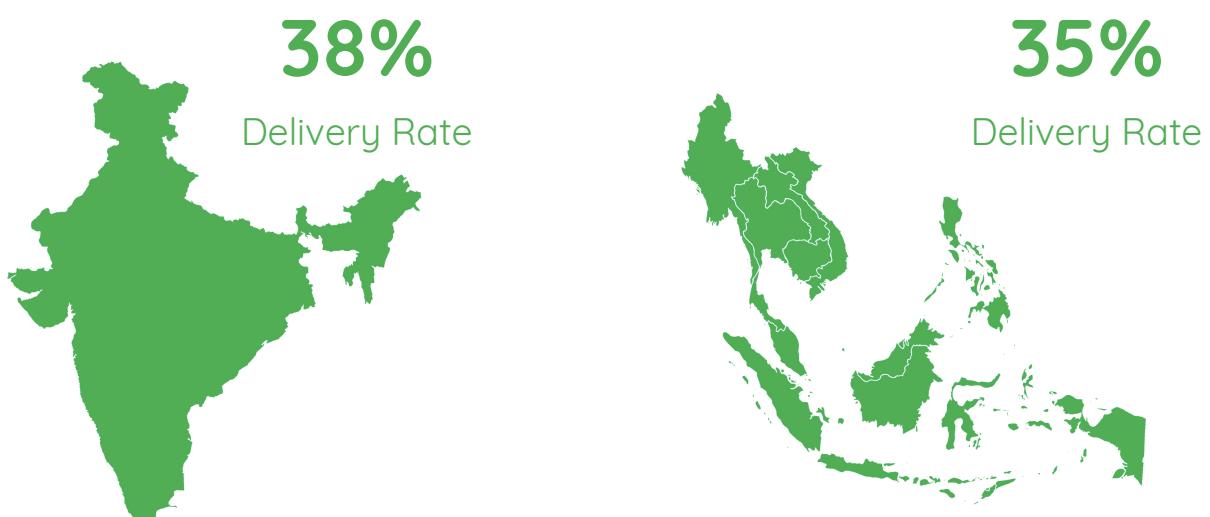
### 1) Impact of device model on delivery rates

Manufactures like Oppo, and Vivo have custom OS built on top of the Android. This restricts the background network access to the app, making it difficult to deliver notifications to users of these devices. Other devices like Samsung, Xiaomi, and Motorola have better delivery rates of **51%** to **55%**.



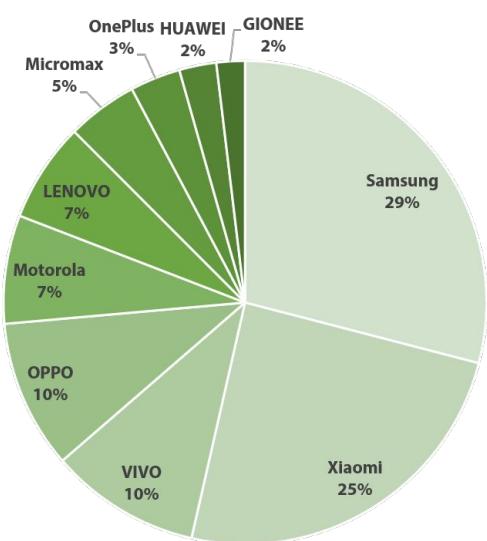
## 2) Impact of device models on delivery rates across geographies

We also found that certain device models were more popular in certain geographies, thereby affecting the delivery rates in those geographies.

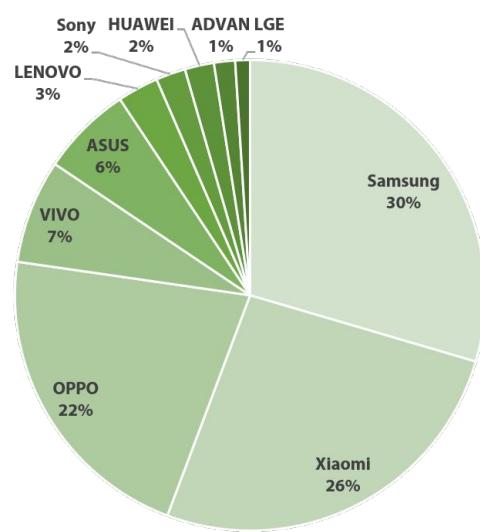


### 3) Market share of device manufacturers by location

A higher share of OPPO and VIVO probably explains why the delivery rate for SEA is lower than India. Device Manufacturers like OPPO, VIVO, and OnePlus that use Custom OS have built tighter battery optimizations that block push notifications. Delivery Rates in India and SEA differ by around 3% (~10% relative)



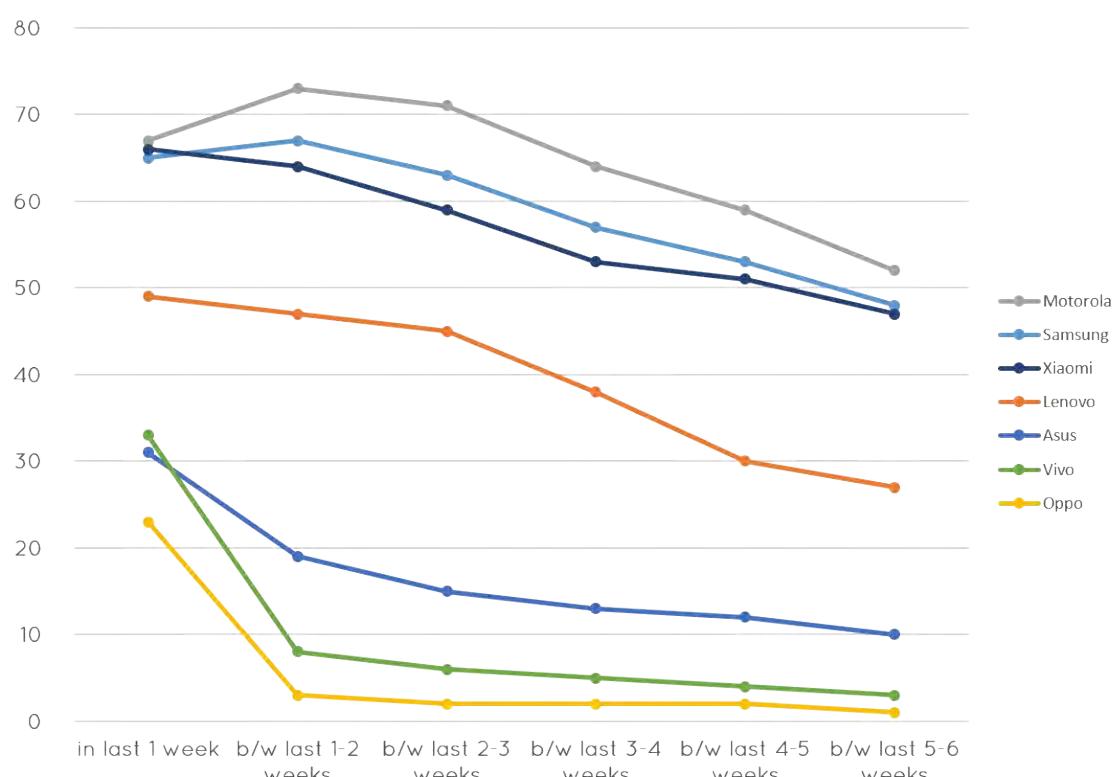
Device share in India



Device share in SEA

### 4) Impact of the device model and user's last activity on delivery rates

For all device models, we found that the delivery rates drastically reduced with the user's inactivity on the app.

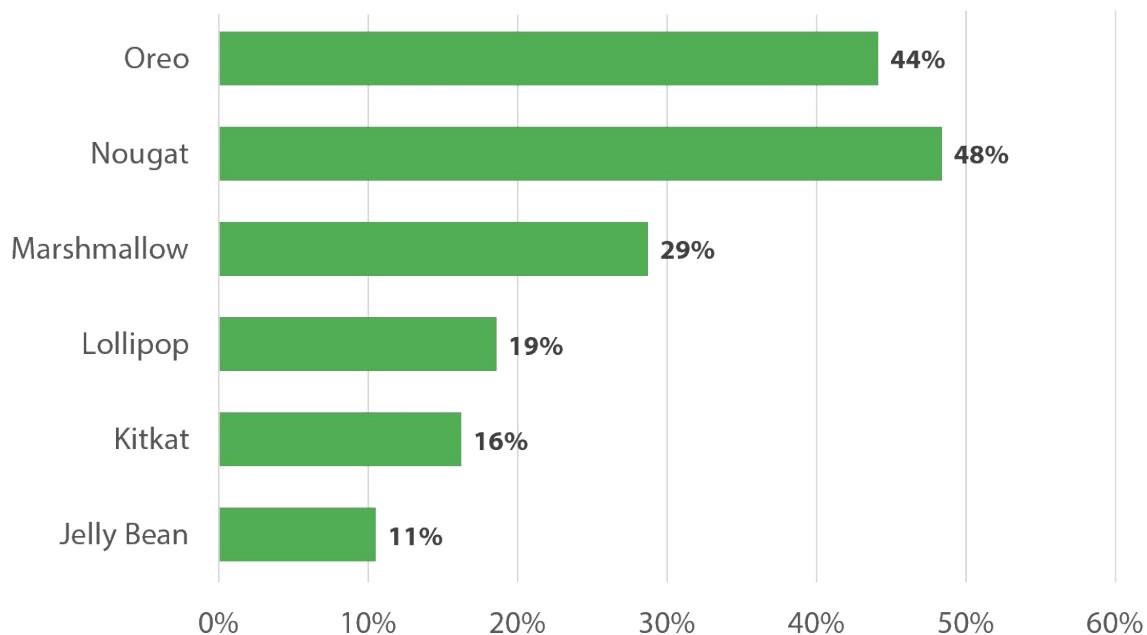


## 5) Impact of Android OS version on delivery rates

Older OS versions of Android like Lollipop, Kitkat, and Jellybean were found to have lower delivery rates while new versions like Android N have higher delivery rates. Oreo has a low delivery rate due to Google's new OS updates. Android N has the highest delivery rate.

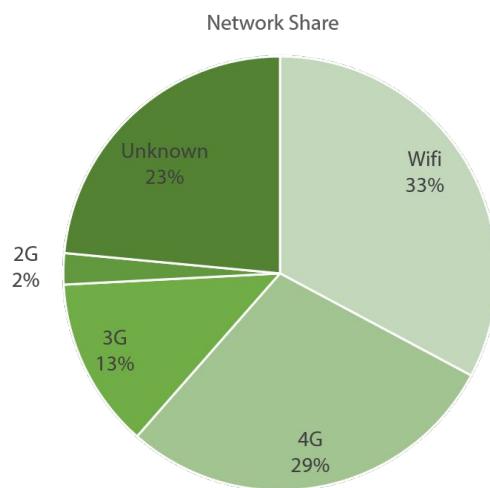
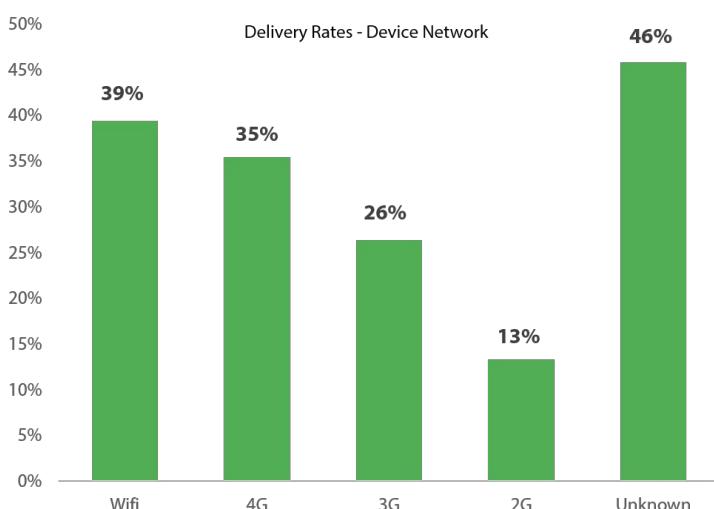
Oreo is experiencing low delivery rates due to:

- Higher battery optimization by OS.
- Introduction of notification channels.



## 6) Impact of device network on delivery rates

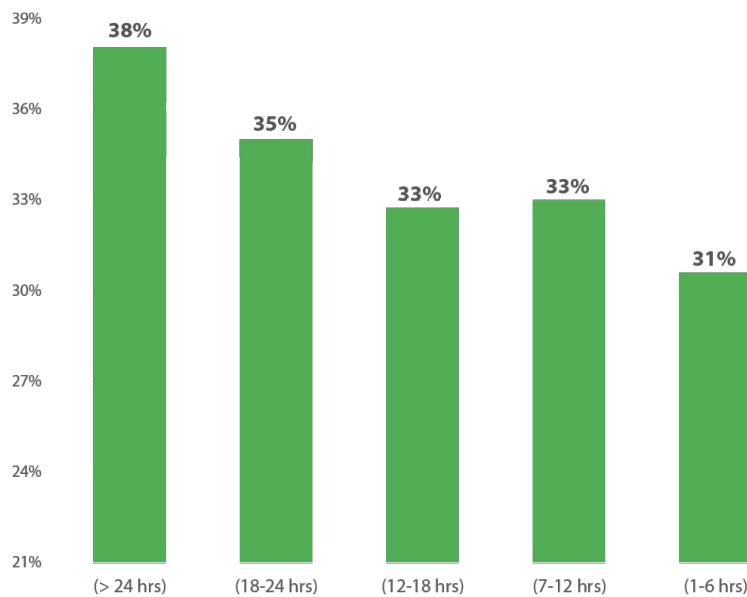
There is a correlation between network latency and delivery rates. WiFi and 4G have a lesser network latency and a higher delivery rate in comparison to 2G and 3G.



# Other factors that impact delivery rates

## 1) Campaign Time To Live (TTL):

MoEngage users have access to a field called Campaign Time To Live (TTL) that allows them to set a time frame to deliver a push notification campaign. A large message TTL allows GCM/Firebase Cloud Messaging to try more times and for a longer duration, during which chances of the user coming to network and receiving the notifications are more. We found that the delivery rates were higher when the TTL time frame was more.



## 2) Device connection state:

GCM/APNS checks if the user device is connected to a network. A lot of customers are not connected to the Internet for a long time and hence GCM cannot deliver notifications to them and cannot mark them as inactive.

## 3) Campaign send time:

Delivery rate also depends on the time when you send out the push notifications. Delivery rates are higher for notifications that are sent when users are most active on the app. This can vary depending on the kind of app and the use cases it fits into. At the best time, there are high chances that most of your users are connected to the Internet and may even have recently used your application.

# How to improve push notifications campaign performance

The average smartphone user interacts with around 30 apps in a month and has access to about 9 apps a day. People using smartphones receive on an average 60+ push notifications in a single day. To get the attention of users, marketers need to employ an omnichannel promotional campaign with relevant, personalized push notifications based on user behavior. Here are some best practices to get the most out of your push notification campaign.

## 1) Define your audience

The first step is to specify or define the audience to whom the push notification is intended. Start by segmenting or grouping users who exhibit similar attributes. Through segmentation and personalization, brands like Gaana have achieved up to 3X engagement in just one year.

**Up to 120%** Uplift in Gaana's premium subscriptions

**10% Daily Active Users** driven through MoEngage Push Notifications.

**2/3 Users** who engage with push notifications, play a song on the app

## 2) Craft the right message

The next step is to create personalized messages that match the needs of the target audience. The more relevant and customized the messages are, the more engagement you can drive.

## 3) Send notifications at the right time

Real-time trigger based notifications can enhance delivery rates greatly. With MoEngage real-time triggers, companies can send instant push notifications that are triggered based on pre-configured behavioral events. These notifications are delivered within seconds of the trigger/ completion of an event such as a purchase even when the user is offline. The highest delivery rate of over 98% was observed for campaigns based on real-time triggers that send push notifications to users who intend to exit the app. By giving users messages that are related to their 'micro-moments', marketers can thus drive more engagement.

## 4) Analyze what's working

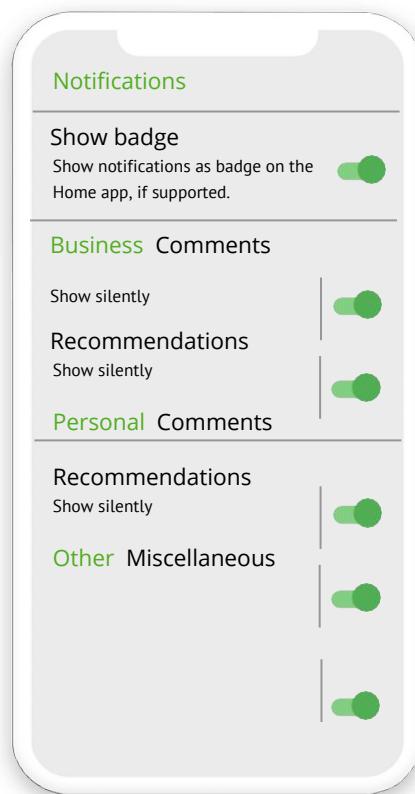
When it comes to push notifications, there is no one size fits all solution. Every app is unique with unique use cases. The best bet for marketers to succeed is to experiment and optimize their campaigns based on customer behavior.

# Tips to improve delivery rates

## 1) Equip your app with notification channels to enable opt-ins

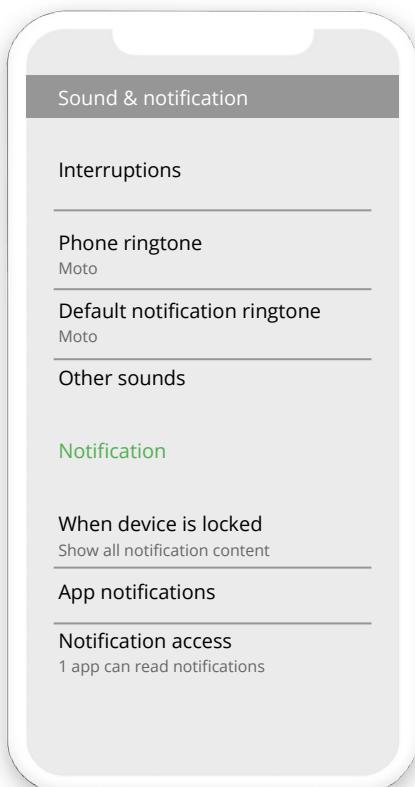
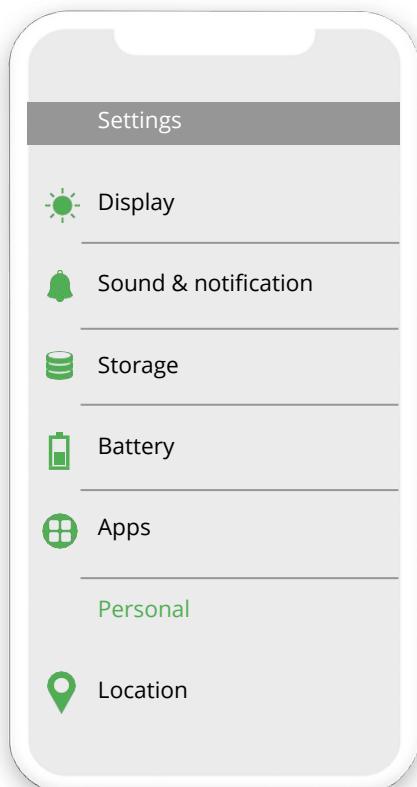
While the right message at the right time can drive conversions, too many push notifications can push your users to disable app notifications altogether. Push notifications by its nature provide greater control to users over the kind of content they want to see with the option to manage notification settings. Newer versions of Android like Oreo provide greater control to users in this regard.

To allow users to manage their notifications, app owners can create notification channels according to the type of notification such as specific service alerts. This will allow users to opt-in for only those notifications that they want to receive rather than opting out completely.



## 2) Educate users about device-specific notification options

Every device has its own device-specific notification settings that sometimes prevents the delivery of push notifications. Notifications can also be blocked by battery optimizers like Greenify and Cleanmaster. To improve delivery rates, app owners can educate and equip users with the information they need to modify their notification settings accordingly. Many apps today provide detailed guides to users for notification troubleshooting.



# The right push, at the right time, powered by AI

## Get Started with MoEngage Push Notifications

Use push notifications for personalized customer engagement to boost sales, reduce churn and occupy mindshare.

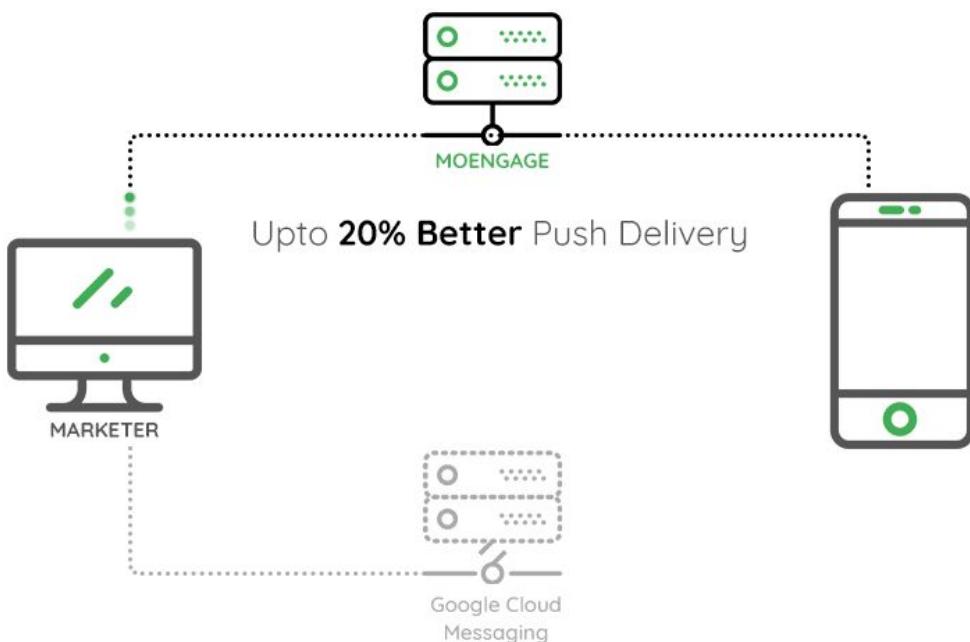
With MoEngage, you can:

- Target audiences with powerful segmentation
- Strike a conversation, craft the right message
- Ensure delivery, optimize for conversions and measure impact.



## Improve delivery rates by up to 20% with MoEngage Push Amplification

Even though you may not achieve 100% delivery rates, you can still improve your existing delivery rates with push amplification tools like MoEngage. The tool upon detecting the failure in notification delivery acts as a fallback to the GCM and successfully delivers the notification to users. Brands like Bigbasket, Travelz, and Oyo Rooms have witnessed up to **15%** improvement in their push notification delivery with MoEngage Push Amplification.





## About MoEngage

MoEngage is an intelligent marketing cloud, built for the mobile-first world. With AI-powered automation and optimization capabilities, MoEngage enables hyper-personalization at scale across multiple channels like mobile push, email, in-app, web push, and SMS. Fortune **500** brands across **35+** countries such as McAfee, Samsung, and Vodafone use MoEngage to orchestrate their omnichannel campaigns.

**350 MILLION +** Users analyzed every month  
**40 BILLION +** Events processed every month  
**1 BILLION +** Messages sent every day

Learn more  
visit [www.moengage.com](http://www.moengage.com)

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