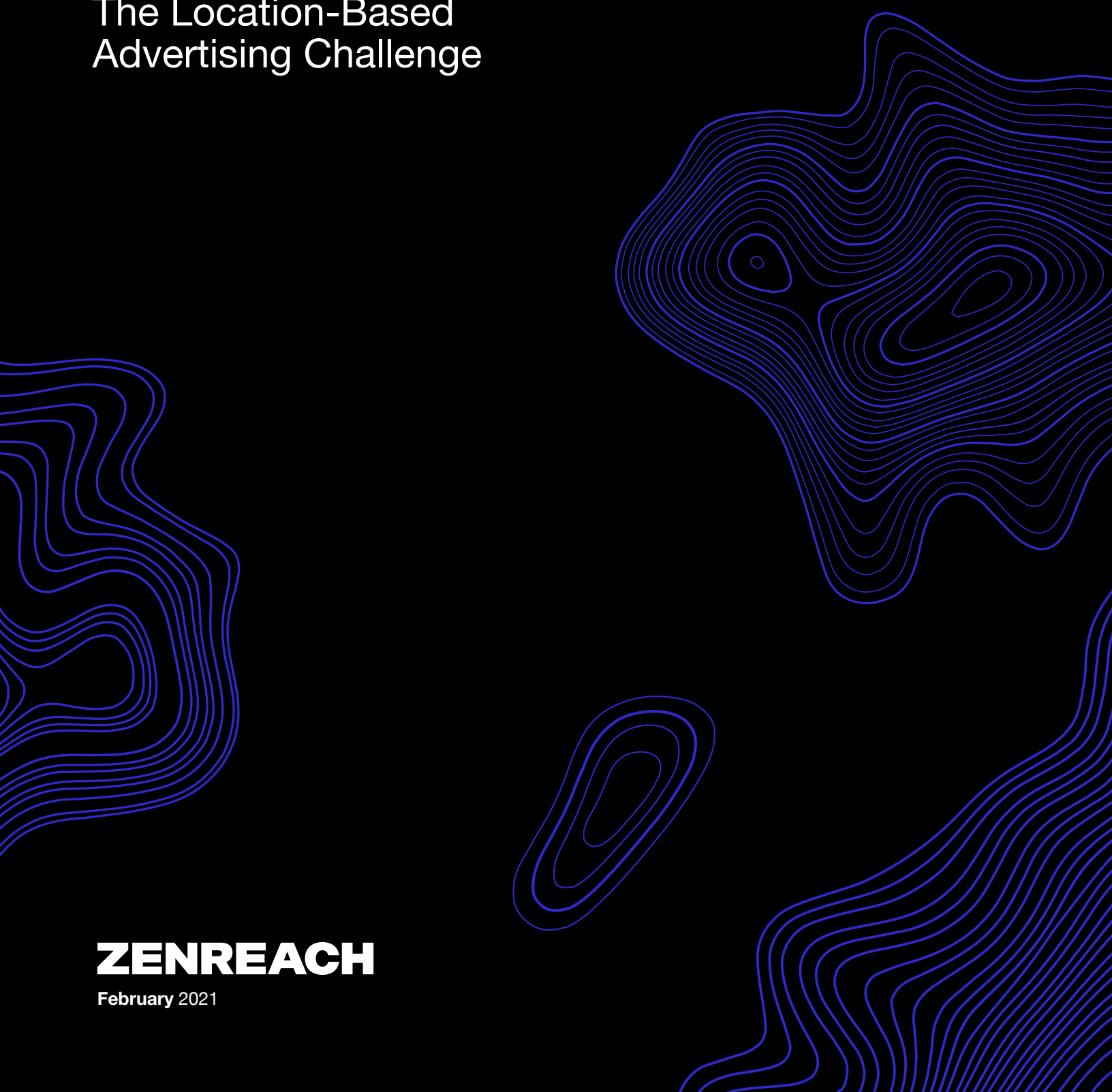
The Data Dilemma

Part 1:

The Location-Based Advertising Challenge



ZENREACH

February 2021

The Data Dilemma

Part 1:

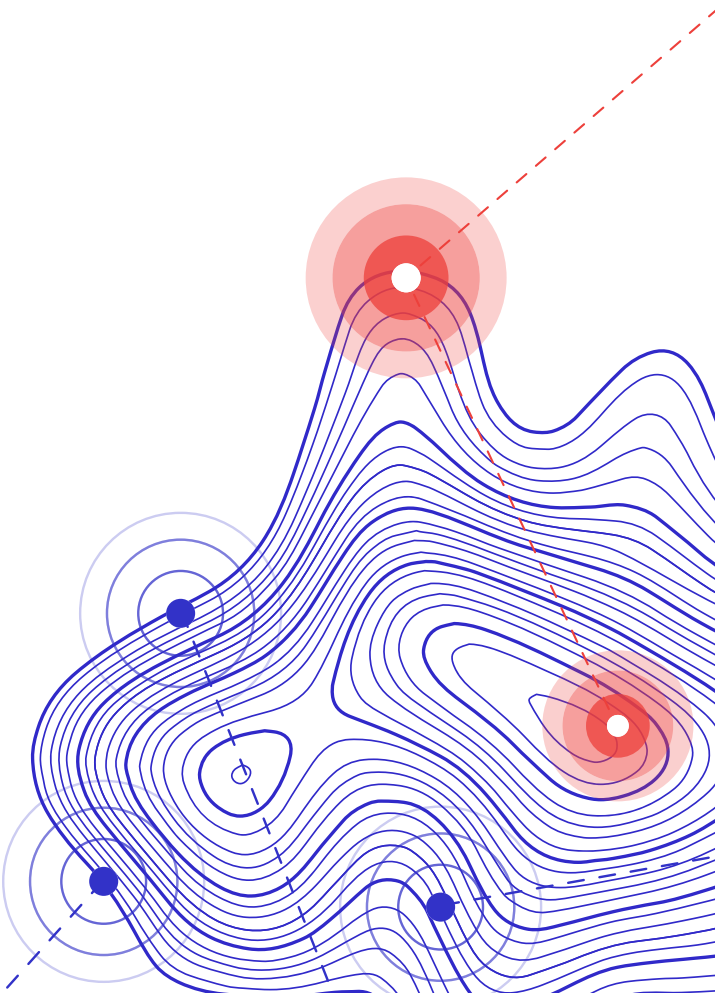
The Location-Based Advertising Challenge

Targeted advertising based on a user's location is one of the fastest growing sectors in advertising. The ability to pinpoint users in a hyperlocal area has appeal to marketers across the spectrum, and the ability to link the effectiveness of those ads to in-store foot traffic has been in high demand.

Yet the accuracy of the underlying data associated with user location has been called into question by numerous observers. And this issue of accuracy is even more important when the precise location of a consumer is critical to determining the success of a particular advertising campaign—for example, when a marketer needs to know that customers came into their store, and not just walked by the storefront.

Furthermore, some of the more recent shifts in the industry by Apple and other leading tech companies have only further muddied the already-cloudy waters of location accuracy. And arguably the most challenging aspect of all is the incredible difficulty, if not impossibility, of auditing the results.

This paper examines the evolving landscape of how customer location data is gathered, evaluated, and deployed to achieve business outcomes.



Overview of location-based advertising solutions

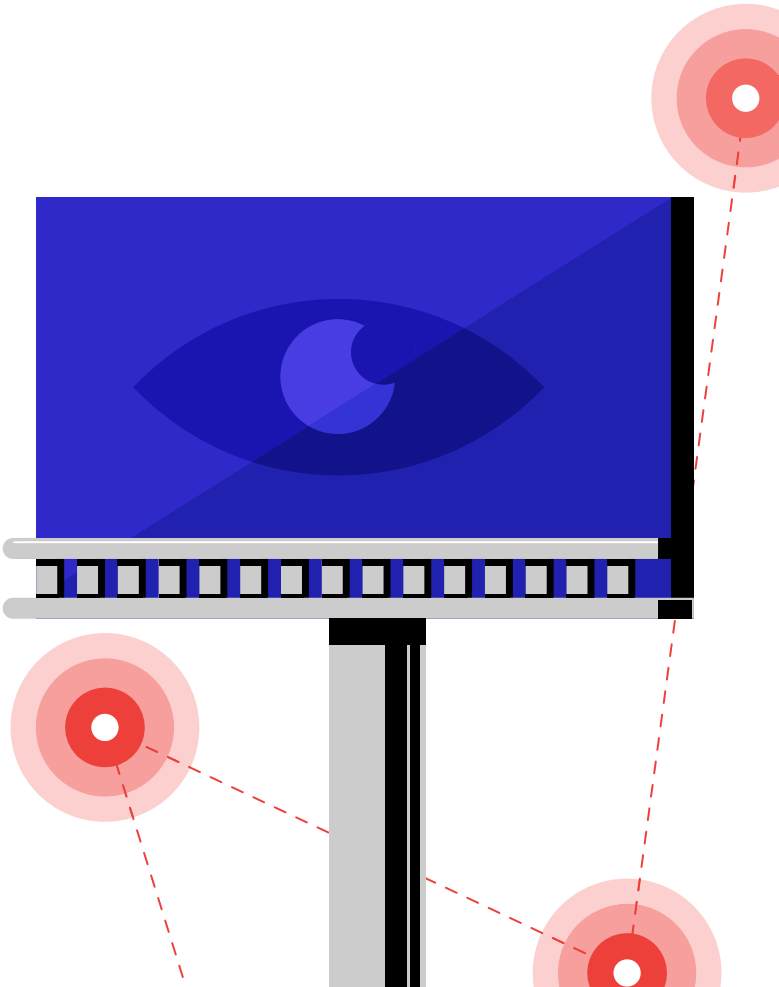
1.0

Location-based advertising (LBA)—also known as location-based marketing, geotargeting, hyperlocal marketing, and proximity-based marketing—is the concept of advertising to consumers based on their physical location at a given point in time. The most common type of location-specific marketing leverages data from users' mobile devices to display relevant content to these same users.

The popularity of location-based advertising has mushroomed over the past ten years. Nearly 90% of marketers in one recent survey said that location-based advertising and marketing resulted in higher sales, growth in their respective customer bases, and higher customer engagement. This same survey indicated that 84% of marketers currently use geolocational data in their marketing campaigns, and 94% of marketers planned on using it in the near future.

Although the vast majority of marketers use (or plan on using) geolocational data in their marketing campaigns, relatively few—a mere 24%—use location data as a tool for performance measurement, offline tracking, conversion attribution, or customer insight collection.

The reason for this disparity is straightforward: if you want to target consumers who have been to Times Square in the last ten days, existing technologies can enable that fairly well. However, if you want to target consumers that have been to Times Square in the last ten days and measure how many walk into the bowling alley at 7th Avenue & 44th Street, most existing technologies have difficulty with that level of precision.



Sources of location-based data

2.0

There are many different types of location-based advertising data sources (e.g., IP targeted for in-home campaigns, digital billboards, dynamic taxi ads, etc.). For the purposes of this paper, we will confine ourselves to the two primary sources of location-based data that marketers can collect and use for their campaigns: (i) GPS-based and (ii) in-store WiFi-based.

Because of the differing technologies involved, each of these data sources provides advantages and disadvantages for marketers looking to capitalize on having the ability to tie a user's physical location to the types of content that user is served.

GPS data

GPS data is derived from the Global Positioning System, a network of over 30 satellites in medium Earth orbit which continuously emit signals picked up by receivers embedded in smartphones and other devices. Every smartphone deploys GPS technology, and almost all mobile apps that track user locations rely on GPS signals.

First, let's dive into the advantages of GPS data. Because the data are more or less captured in real time, providers can leverage a user's location almost instantaneously. Additionally, the audience size is tremendous; approximately 200-300 million devices are being tracked by GPS at any given point in time. Therefore, advertisers can target large audience sets via GPS-sourced data.

Finally, the data are also widely available to marketers and relatively inexpensive for them to obtain as many ad exchanges make these data available for targeting, and numerous companies specialize in harvesting this data.

But for brick-and-mortar retailers looking to measure campaign performance based on the number of customers who actually visit their physical stores after being exposed to an ad, GPS is a far-from-ideal resource. Not only can this level of attribution be expensive for marketers to realize (as many providers require a significant minimum spend threshold), the accuracy and reliability of the reporting is questionable as well.

Why? The most significant challenge of GPS data is the difficulty in determining a user's precise location—for example, knowing whether a consumer came into your restaurant versus the restaurant next door would be especially vital for attribution. This challenge is particularly acute in dense areas—like Manhattan or Miami's South Beach or shopping malls. This is because GPS can have precision errors due to signal obstruction and multipath errors.

Further, GPS is almost useless in determining which floor a user is on in a multi-story building. So if it is

important for you to distinguish a restaurant guest from a person going into their apartment directly above, GPS will not be of much help. (These challenges will only be exacerbated with 5G networks because of the increased difficulty 5G has in penetrating walls.)

Another drawback to GPS data is how the data are collected. Most GPS data come from two major sources: advertisements served to users on their cell phones, known as "bid stream data," and cell phone apps in-use by users, known as "app data." Both sources present the same challenges.

The first challenge is that these data sources require a user to be actively using their phone at the time they are in the targeted location. In other words, the user has to have their cell phone open and be engaging with a particular app or viewing a particular ad in order to measure their location.

While most of us use our phones quite frequently, not all of us are engaged in app usage at all times. The twentysomething who is texting his friends for 20 minutes, for example, may not show up as being at the apparel shop because he wasn't using the specific app with location services enabled.

The second challenge is there are very few parameters defining a user's visit to a particular location. For most providers, one registered blip of the server is enough to claim that a user was in a location. So both the hurried executive who walks into the coffee shop just to grab a napkin as well as thedelivery driver who shows up at the pizza place to pick up an order might both be deemed—inaccurately—to be in-store customers.

These challenges of false negatives and false positives, as well as the lack of precision with GPS renderings ("Was the person in my store or waiting for the bus out front?") are the reasons why the accuracy of GPS-based data has been called into question.

Accuracy challenges

All that said, although GPS has been heavily relied upon in the location-based marketing space, more and more studies are calling the integrity of the data into question. In fact, one provider recently uncovered that 25% of all impressions delivered in a programmatic mobile campaign were served to customers more than 300 miles away. Another report noted that 80% of all bid stream data was too unreliable to use.

A third study found 36% of apps were showing fraudulent locations, and only 35% provided an accurate user location. For these reasons, it is estimated that 65% of all location based advertising spend is wasted.

And it's only getting worse

In light of recent announcements by Apple and others, these challenges are only becoming more...well, challenging.

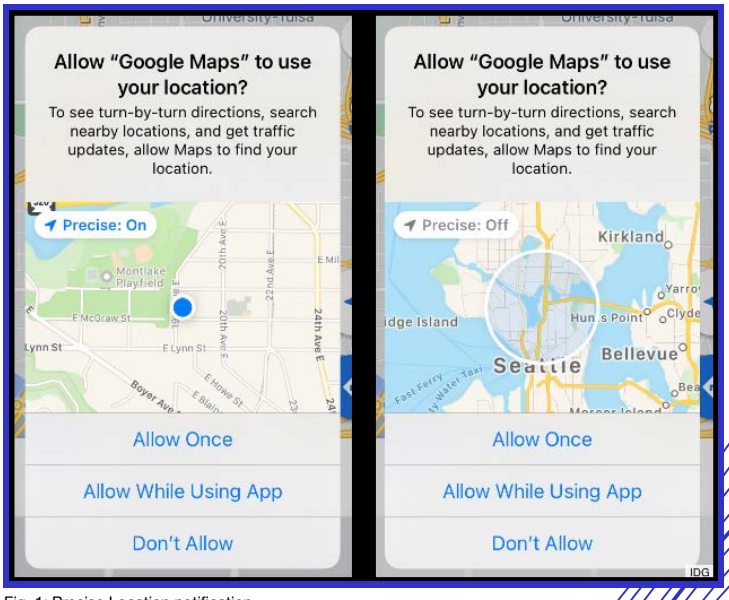


Fig. 1: Precise Location notification
(Image Source)

Previously, users had the ability to control access to their location at the application level. Apple has taken this accessibility a step further by introducing the Precise Location option (fig. 1), even for those applications already allowed to track. When Precise Location is turned off, a user's specific location is not available, and only an approximation is provided.

While Apple's introduction of the Precise Location option has brought a lot of consumer attention to the subject of location tracking, it is not the only issue that the company is calling attention to. They have also brought greater transparency to customer data that is shared across apps. Many apps leverage information from other apps to gather information about consumers for, among other things, advertising purposes.

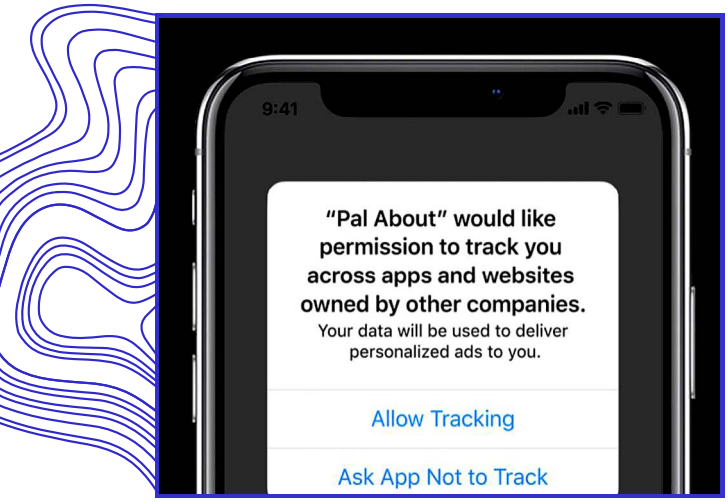


Fig. 2: Cross-app tracking notification
(Image Source)

With the new iOS 14 rollout, Apple is giving users visibility into this practice and asking users to opt in to cross-app data sharing—and they are not burying this in the settings but rather putting this choice directly in front of the user (fig. 2).

These changes are already having a big impact on app developers and mobile advertising. Recently, Facebook put out a blog post explaining that the company is expecting a greater than 50% drop in publisher revenue generated by ads run on their platform due to these new changes.

For example, if a user were to opt out of cross-app data sharing, Facebook's ability to track "off-site conversions" would be limited, as that reporting is reliant upon cross-app data sharing. Therefore, conversions that previously would have been attributed to Facebook as a referring source channel will no longer be attributed to them. (This impact is the reason why Facebook has been so vocal in trying to persuade Apple to reverse this decision.)

But Facebook is not alone in being affected—most apps will face significant declines in location-based data quality. Estimates vary as to what percentage of the population will opt in to this tracking, but at least one estimate puts the number at under a quarter of all users. That is to say, the efficacy of the channel could drop by over 75%!

The result within the industry will be the further degradation of the quality and accuracy of app-based data. So what is the alternative?

WiFi data

In-store location data can also be collected via WiFi, which occurs when a user's mobile device pings a wireless router inside of a brick-and-mortar location. Because the majority of smartphone users have their devices set to automatically seek WiFi signals at all times and because most devices look for these signals approximately every thirty seconds, these device interactions with a WiFi network can serve as a proxy for foot traffic.

The disadvantages of WiFi can be described as limitations of breadth—breadth of range and breadth of users. Because WiFi's range is limited (usually to around one city block), this data source is not a good proxy for determining user sets at larger scale (e.g. all users in Chicago). In venues where wireless networks are configured (e.g. large stadiums), breadth of range is not an issue, but where there are no networks, there are obvious gaps (e.g. Central Park).

The second disadvantage is the number of users available to target by advertisers. The largest network of WiFi consumers—Zenreach's—has about 50 million consumers, and although this is sizable, it is significantly smaller than most GPS providers' networks.

WiFi data advantages

The advantages to WiFi data, however, are numerous. First, WiFi is much better than GPS at determining a user's precise location. Because networks can be configured and invisible lines drawn, merchants can have a much stronger level of confidence about a user's presence in a location. And this not only applies horizontally but also vertically, so multi-floor buildings are less of a challenge. The result is fewer false positives.

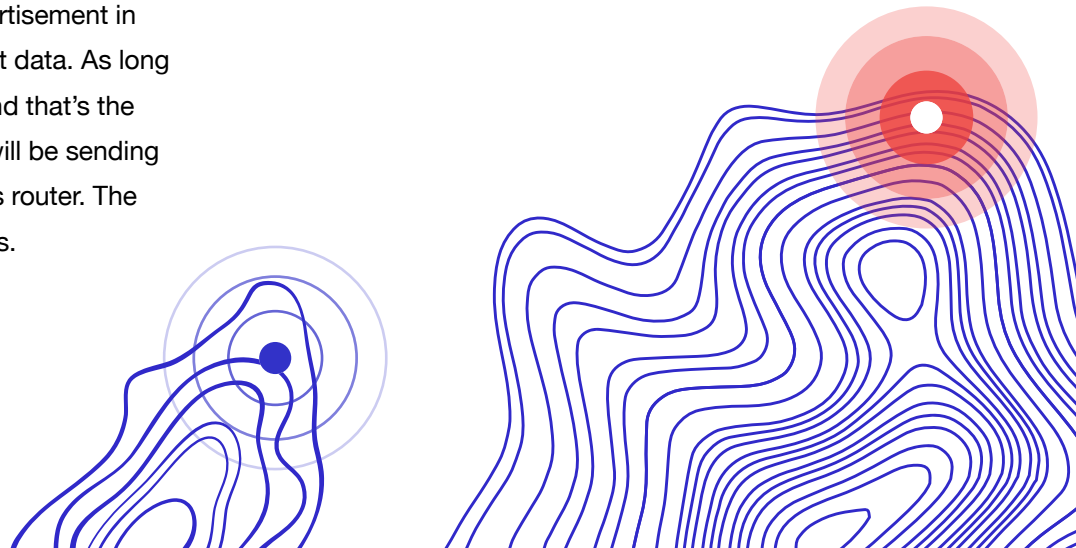
Second, WiFi data comes directly from phones' interaction with the network rather than from apps running on the phone. This distinction is important because a user does not need to engage with a particular app or view a particular advertisement in order for a provider to be able to collect data. As long as a user's WiFi signal is turned on—and that's the default setting—the user's cell phone will be sending a signal that is captured by the wireless router. The result, again, is far fewer false negatives.

Third, unlike with app data or bid stream data where the absence of a ping from a device to the server is not leveraged, with WiFi data both the presence and absence of a ping can be leveraged. Whereas with GPS solutions the provider simply does not know why a user stopped registering at a location—was it because the user walked out, or did they stop using the app?—the absence of a WiFi ping almost always means that the user is out of range.

As a result, a WiFi network can be configured to only count a user when that user has been recognized for a minimum amount of time—what we at Zenreach call "dwell time." Thus, there is a much higher degree of confidence through WiFi data that a user is in a location for the time required to be a customer (and not just passing by), which not only improves the quality of the data for targeting purposes, but also ensures the accuracy of measurement in attribution.

Lastly, because the data collected comes from the phones' interaction with the network rather than an app, the recent industry changes associated with app location tracking do not impact WiFi data.

In summary, while GPS data is useful for marketers looking to target users within a broad area, it may not be accurate enough to measure campaign performance due to the increasing amount of false positives/false negatives. Ultimately, WiFi-based data offers the best option for both precision targeting and measurement due to the many benefits outlined above.



WiFi data in action

Let's take a look at a real-world success story: our client Gelson's, a regional upscale grocery store chain based in Southern California. Due to its presence in predominantly affluent neighborhoods, the Gelson's customer base has historically tended to skew older.

Prior to engaging with Zenreach, the brand had used digital campaigns in an attempt to drive a younger clientele into their locations, but the results were inconclusive as Gelson's was unable to quantify the in-store results.

To solve this problem, Gelson's implemented the Zenreach Walk-Through™ Marketing solution across all of its 27 locations with the aim of gaining an understanding of what campaigns, tactics, and creative were influencing a younger demographic to come into their stores.

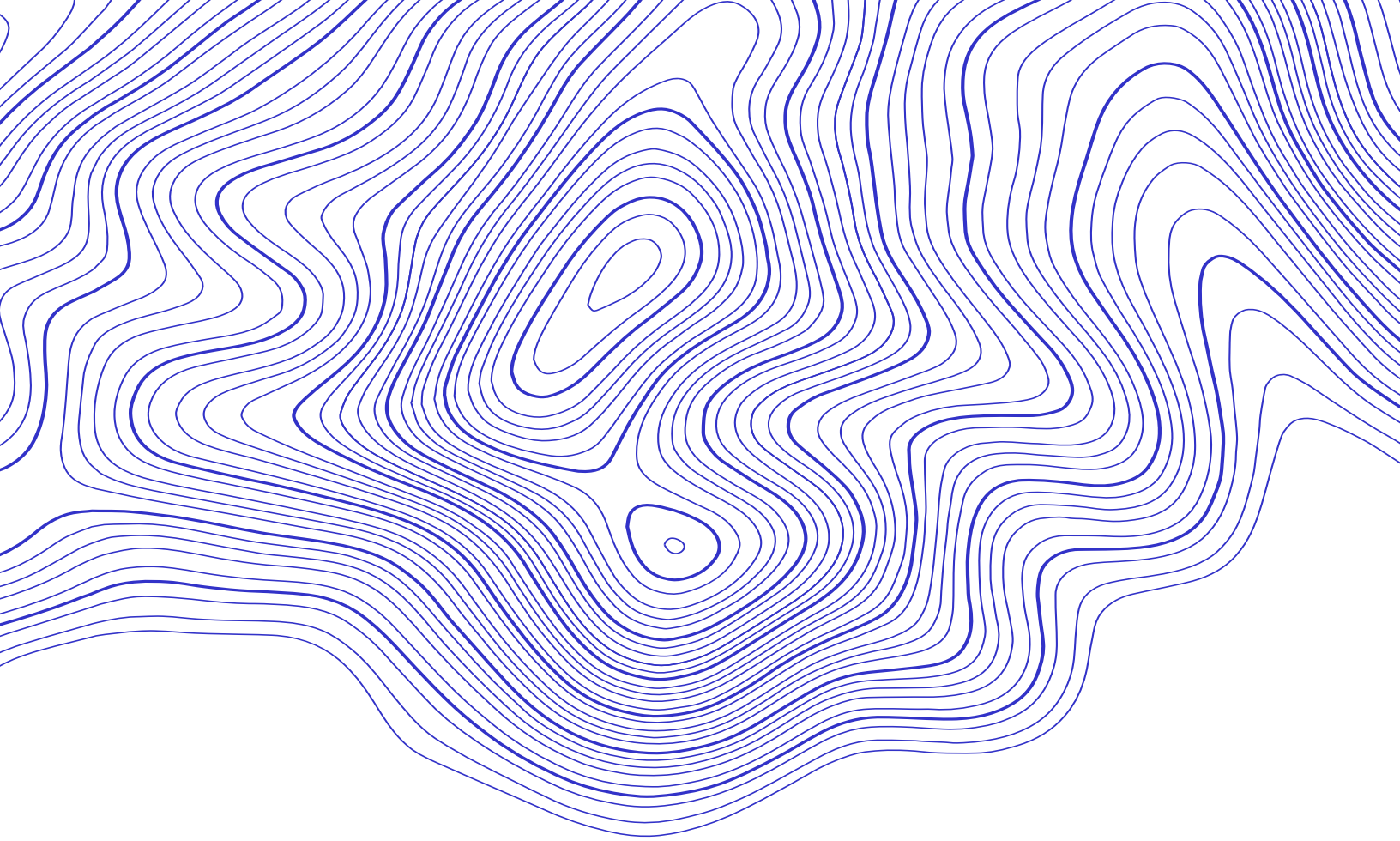
Once Zenreach was installed, the chain was able to have greater insight into who was coming into the store, what kind of messaging was prompting them to act, and how the brand could iterate on their marketing messaging to bring in their desired audience.

Within 90 days of implementing the Zenreach solution, 53.6% of all Walk-Throughs (that is, people who came into a Gelson's location in response to seeing an ad served by the Zenreach platform) were between the ages of 18 and 34 years old.

By leveraging more deterministic in-store data, the supermarket chain was able to recognize an incredible 17:1 ROI on its social campaigns—and most importantly, made huge inroads with their desired consumer demographic.

And beyond the immediate results, the email addresses captured via the Zenreach platform are now owned by Gelson's, meaning they can be used for other email marketing campaigns in the future.

In summary, WiFi technology not only ensures greater effectiveness of your location-based advertising efforts, it also gives you a competitive advantage when it comes to targeting your advertising and, subsequently, gaining actionable insights on both in-store customer visits and online conversions.



Contact us

Call: (800) 807-WiFi (9434)
Email: hello@zenreach.com
www.zenreach.com/

ZENREACH

© 2021 Zenreach, Inc