

# Maximize Customer Engagement With Location Technology

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## Summary

Location in the broadest context is one of the most valuable pieces of information for enhancing customer engagement. IT leaders and mobile strategists can create valuable customer engagement opportunities by combining customer online activities with on-the-go smartphone use and on-site location.

## Overview

### Impacts

App development professionals should note that:

Location data integrated with information tied to customer behavior will provide opportunities to deepen customer relationships.

Advances in GPS-driven geofencing, indoor Wi-Fi triangulation, small cells, Bluetooth beacons and NFC-powered delivery systems offer opportunities for customer interaction and outreach.

Location-triggered push-and-pull technologies, combined with targeted communications driven by customer data, offer opportunities to convert intentions to transactions.

## Recommendations

App develop professionals should:

Address the full customer experience in delivering location-enhanced customer engagement, starting away from the business and migrating to 0.25-meter zones in the business, while respecting customer privacy via opt-in measures.

Use GPS, Wi-Fi, Bluetooth LE, NFC technologies, etc., for maximum accuracy to enhance the path analysis of customers before and after entry to the business, to personalize experiences and to gain insights into how physical spaces are used.

Leverage customer information available from CRM, point-of-sale and other back-end systems to facilitate location-driven customer engagements.

## Analysis

Location is one of the most important variables in any effort to engage your customers. If customers are at home or in the office, and are looking at your business's website, the chances are good that they're using personal computers or tablets and that their session lengths will tend to be longer. These interactions offer significant information about the customer that can become valuable at other times.

This data can provide your business with information you need to personalize offers or communications in the brief opportunities that present themselves via mobile apps or in-business interactions with customers directly or through employee interactions. Despite these advantages, most businesses do not connect the information available to them about customers' browsing habits with the customers' use of mobile apps or in-business interactions with location-centric technologies. This is largely due to integration challenges; however, businesses should address this need.

## More on This Topic

This is part of two in-depth collections of research. See the collections:

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### *SERIES OVERVIEW*

How to Build a Mobile Digital Presence  
(<http://www.gartner.com/document/code/292622?ref=grbody&refval=3099918>)

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Engaging Customers in a Mobile Digital World  
(<http://www.gartner.com/document/code/281699?ref=grbody&refval=3099918>)

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The use of these technologies extends beyond the typical customer-facing retail environments that most people think about when considering location technologies. These technologies can be used in entertainment venues when communication with patrons can be significantly enhanced via the leveraging of location technologies, such as delivery of concessions to the seats of specific patrons. Another instance is healthcare facilities, where location technologies can enhance patient care. One example of this is nurses who are caring for multiple patients, and the location technology enables them to access records associated with specific patients in specific rooms automatically.

The leveraging of all available customer behavior information across all channels is the key to the successful deployment of location technologies. Consider all available location information and the technologies that facilitate the delivery of this information to optimize customer engagements and enhance the customer experience.

**Figure 1.** Impacts and Top Recommendations for App Development Professionals Working With Location Technology

Impacts	Top Recommendations
Location data integrated with information tied to customer behavior will provide opportunities to deepen customer relationships.	<ul style="list-style-type: none"> <li>Address the full customer experience in delivering location-enhanced customer engagement, starting away from the business and migrating to 0.25-meter zones in the business.</li> </ul>
Advances in GPS-driven geofencing, indoor Wi-Fi triangulation, small cells, Bluetooth beacons and NFC-powered delivery systems offer opportunities for customer interaction and outreach.	<ul style="list-style-type: none"> <li>Use GPS, Wi-Fi, Bluetooth LE, NFC technologies, etc., for maximum accuracy to enhance the path analysis of customers before and after entry to the business, to personalize experiences and to gain insights into how physical spaces are used.</li> </ul>
Location-triggered, push-and-pull technologies, combined with targeted communications driven by customer data, offer opportunities to convert intentions to transactions.	<ul style="list-style-type: none"> <li>Leverage customer information available from CRM, point-of-sale and other back-end systems to facilitate location-driven customer engagements.</li> </ul>

Source: Gartner (July 2015)

## Impacts and Recommendations

### Location data integrated with information tied to customer behavior will provide opportunities to deepen customer relationships

Location technologies, such as GPS, geofencing, Wi-Fi triangulation, iBeacons, Eddystone Beacons (previously UriBeacons) and Near Field Communication (NFC) offer new ways to engage consumers. These technologies can all be used in conjunction with customer information gathered across a range of channels and platforms. Location technology can only facilitate better customer engagement if the business aggregates and analyzes its full set of customer data prior to applying targeted marketing technologies and location-driven delivery vehicles.

Businesses engage with customers via multiple channels, yet they tend not to integrate and analyze the data across these multiple channels of engagement to gain valuable insight that can be used in conjunction with location technologies to deliver just the right message at just the right moment to convert customer intentions to customer transactions. The use of location technologies in the business or on mobile devices without leveraging all available customer-related data sources will diminish the effectiveness of these technologies in customer engagement activities. In the worst case, failing to consider the full customer will result in a failed engagement and, potentially, negative customer reactions.

Leveraging location technologies means that businesses need to leverage location information. This means gathering and analyzing customer information across all channels in which the customer engages with the business. Has the customer visited the websites operated by the business? Has the customer provided information as part of a loyalty program membership? Has the customer installed and used a mobile app on his or her smartphone? How often does this customer come into the place of business? What products does the

customer consider while engaged with the business via any of these engagement channels? How much time does the customer spend on the website, using the mobile app, in the business? What is the customer's path through the website or in the business? Has he or she interacted with a call center, and what questions drove this? Most important, what do customers actually purchase?

All of these activities yield valuable customer information that can be used to improve engagement and retention, which translates into greater purchase activity and more-satisfied customers. In short, leveraging location technologies to improve customer engagement requires the gathering of customer information across all the locations in which the customer engages with the business.

#### *Recommendation:*

Address the full customer experience in delivering location-enhanced customer engagement, starting away from the business and migrating to 0.25-meter zones in the business, while respecting customer privacy via opt-in measures.

### **Advances in GPS-driven geofencing, indoor Wi-Fi triangulation, small cells, Bluetooth beacons and NFC-powered delivery systems offer opportunities for customer interaction and outreach**

Many technologies are available to manage indoor location, each with different capabilities, ranges and problems. There is no single, ideal solution. The best accuracy is being achieved by combining the results from several sources. Although none of these technologies is mature, they are evolving and improving rapidly. There are effectively three basic approaches.

#### **Network Triangulation**

By knowing the precise location of multiple Wi-Fi access points or small cells within a building, mobile OSs can use triangulation to determine their location. This approach is similar to that used with GPS, and, in some locations, GPS signals penetrate the building or venue, providing additional location information. The precision that can be achieved depends on many factors, including the number of access points, the metallic content of walls and displays, the reflective properties of building materials and even weather conditions. A dense grid of access points will provide better accuracy than a few scattered devices; however, this requires a substantial investment to guarantee good coverage. Mobile apps cannot perform these calculations themselves, because access to privileged APIs and hardware features is required.

#### **Proximity**

Beacons are devices that typically transmit information about their location and additional content using Bluetooth. Although this technology has been widely available for more than a decade, the recent availability of low-energy Bluetooth means that the beacons can be battery-powered, dramatically reducing their cost and allowing large numbers of them to be deployed inexpensively. Retailers often place beacons in end caps or similar promotional areas that have been designed to attract the attention of the users.

Beacons have two significant limitations. First, many people turn off Bluetooth to conserve their batteries, and, second, for most beacon types, the consumer must have previously installed an app that will be activated by the Bluetooth mechanism. Google's Eddystone Beacon standard pushes URLs to consumers, who must then accept them in a browser. These conditions clearly limit the addressable user base significantly, which reduces the effectiveness of the approach. Bluetooth is a short-range, high-frequency radio technology that can be affected by interference, metallic structures common in store fittings and even the human body, causing jitter in the signal. An app activated by Bluetooth can send location information, based on the beacon's configuration, back to the retailer.

#### **Manual Tap**

Perhaps the simplest technology is the NFC shelf talker, which is a conventional tag attached to shelving beside the product that is being featured. It is enhanced to include an NFC chip configuration with details of the promotion. Consumers tap the tag with their phones. This opens a URL in a browser or activates an app if one is installed. This allows manufacturer and retailer promotions to be on specific items without the need for detailed mapping; however, it removes the automatic element of the other approaches. Quick response codes can be used in a similar manner. The target website or app can push location information back to the retailer via the consumer's device.

Although there is clear cost to installing access points, cells and beacons, there are also significant costs for maintenance and management. An accurate, detailed map of the venue, as well as where the products, services, facilities and concessions are located, must be built and maintained. When products are moved from one location to another, the online map must be updated, and any relevant beacons must be moved or reprogrammed. Beacon batteries need to be replaced after a period of use. Regular building maintenance activities and seasonal promotions will result in beacons and access points being moved or even completely removed.

All of these location technologies work best as part of a larger analytic approach that includes information about the path of the consumer prior to entering the location and his or her online behavior. Wi-Fi can be used for anonymous tracking, which is useful for identifying traffic patterns, hot spots and other generic information, and identities are required for accurate profiling of individuals. This requires consumers to opt in to services, typically as an addition to an existing loyalty program, and to install an app on their devices. This must be done prior to any specific engagement beginning.

The mobile app itself, or potentially a mobile website, also requires specific integration. At a minimum, this will be integrated with the location management system, but, more typically, it will require integration with loyalty program systems and store, building or entertainment management systems. Once this integration has been achieved, the app developer must also manage location event processing – for example, entering and leaving promotional zones, as well as making judgments about dwell times and appropriate responses. Many vendors are beginning to offer contextual service packages that manage these complex tasks at the code and management levels.

*Recommendation:*

Use GPS, Wi-Fi, Bluetooth LE, NFC technologies, etc., for maximum accuracy to enhance path analysis of customers before and after entry to the business to personalize experiences and gain insights into how physical spaces are being used.

### **Location-triggered push-and-pull technologies, combined with targeted communications driven by customer data, offer opportunities to convert intentions to transactions**

Businesses may be tempted to use push notifications, Bluetooth LE beacon transmissions, Wi-Fi delivered coupons, NFC shelf talkers, in-app messaging, website ads and pop-ups to make generic offers to their customers and prospects. In general, this is ineffective and runs the risk of annoying customers if the offers and communications delivered by the business seem irrelevant or unrelated to the customers' interests. In general, blanket generic offers or communications should be avoided. Instead, businesses should make every effort to profile individual customers based on the behaviors evidenced in the locations where they engage the business. This data should be aggregated to look for consistencies and inconsistencies across the different locations where they interact.

This data aggregation and correlation extends to other business situations as well. The use of patient records from a physician integrated with their care instructions may identify a drug interaction issue that they neglected to mention, enabling the attending physician to alter a treatment program when notified about this situation on a mobile device.

The aggregation and analysis of customer-related data is potentially valuable to the business, whether it is delivering product or services. The organization should aggregate all potential sources of customer data, employ the appropriate business intelligence tools to analyze and use customer information, and apply location data to enhance the utility of this information for the business to improve customer interactions.

Analyze the customer behaviors associated with product explorations and research. Pay attention to the behaviors associated with the use of mobile devices across both mobile websites and mobile apps. Understand how customers behave in the business and what stages in the customer engagement process they seem to be involved with in each of these locations. There are customer journeys to be discovered, and these journeys will tell you when it's appropriate to communicate with them and the types of offers to which customers are most likely to respond.

In addition to this location-based customer engagement behavior, businesses should also use the more-traditional customer data stores they already have available. Businesses should mine past purchase behaviors associated with their customers and develop an active profile that includes typical purchase amounts, frequency of purchase, brand preferences and other information that can be gleaned from the systems of record in the business. Use this data in conjunction with location-based delivery technologies to maximize the chances that an engagement event will drive a business transaction, if the information and the location technologies are used judiciously, at the right time and in the right location.

*Recommendation:*

Leverage customer information available from CRM, point-of-sale and other back-end systems to facilitate location-driven customer engagements.

## **Gartner Recommended Reading**

"The Montreal Subway System Delivers Innovation via a Mobile App" (<http://www.gartner.com/document/code/257823?ref=ggrec&refval=3099918>)

"Mobile Extends, Augments and Transforms the Digital Commerce Customer Experience" (<http://www.gartner.com/document/code/279096?ref=ggrec&refval=3099918>)

"Four Key Areas to Ensure a Successful Mobile Application Plan" (<http://www.gartner.com/document/code/272418?ref=ggrec&refval=3099918>)

"How to Address the Complexities of the Mobile AD Technologies Vendor Landscape" (<http://www.gartner.com/document/code/272419?ref=ggrec&refval=3099918>)

"Business Moment: Retail Uses IoT and Mobile to Deliver Personalized Apparel" (<http://www.gartner.com/document/code/264056?ref=ggrec&refval=3099918>)

"Indoor Location-Sensing Technologies Enable New Contextual Experiences" (<http://www.gartner.com/document/code/263859?ref=ggrec&refval=3099918>)

"Enable Your Digital Business With a Mobile App Integration Architecture" (<http://www.gartner.com/document/code/261752?ref=ggrec&refval=3099918>)

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