

# Using iBeacon Solutions for Retail

Prepared by BestFit Mobile, Winter 2013





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## INTRODUCTION

Ever since the first eCommerce sites emerged in the late 90's, it was clear that the future of the cost to value model of traditional brick and mortar retailers would be seriously questioned. Commerce over the Internet was an entirely new competitive force to which most retailers were simply ill equipped to respond. Some wrote it off as a fad, believing the tried and true retail marketing mantra, "location, location, location" would trump any technological evolution, however disruptive it was. To the casual shopper, the value of being able to search thousands of products, comparing prices in seconds meant that the "location" they had in mind is wherever they accessed the Internet from. The most innovative companies at the time such as Dell and Staples saw this challenge as an opportunity, seeing the Internet for what it really represents, a new sales channel which could expand their existing business. This drove companies like these and others to invest and innovate, creating their own eCommerce sites which would compliment their existing business model. The new online-only players such as Amazon and eBay infused new advancements which could quickly get shoppers in front of the exact products they wanted, helping them to increase the average order size per customer, introducing even more value to this new channel. Despite the eCommerce attack on the traditional retail model, the growth rate of new brick and mortar retail locations has been growing at about twice the rate of the US population over the past 20 years. This is a significant investment in a traditional infrastructure coming at the same time as the capacity for eCommerce to drive revenue, reduce costs and improve customer loyalty only improves. This competitive pressure is only intensifying with the growth of mobile users,

where that "location" where shoppers choose to access the Internet is quickly becoming, any place of their choosing.

Comscore estimates there are over 129 million smartphone users active in the US today, it is fair to assume that the aisles of any retailer in the country are filled with shoppers who, in seconds have full access to product information, videos, reviews, competitive pricing and special offers on the products sold inside that store. In a majority of these cases, this valuable information is being delivered via the Internet by your competitors.

## PURPOSE

This paper has been written with the purpose of presenting business use cases to retailers on some new and innovative ways to counteract this mounting pressure and gain additional revenue and loyalty from the shoppers who visit their physical locations. Leveraging a combination of existing online intelligence, mobile technology and in-store radio sensors called beacons, retailers now have a way to breathe new life into their brick and mortar business.

## CHANGES IN THE RETAIL EXPERIENCE

Compounding the woes of the traditional brick and mortar stores, the world's largest online retailer Amazon, has its sights set on satisfying shoppers' instant gratification needs; one of the few reasons still cited for why shoppers visit a store. In a deal with the United States Postal Service, products ordered from Amazon by Friday will be delivered the very next Sunday in limited areas. The good news for retailers with a physical showroom is that new technologies which infuse radio sensors with mobile devices and mobile apps can add a digital layer, helping to bridge the value gap between online and physical stores.

According to research firm, Econsultancy, 35 percent of smartphone users fire up their devices to look for information while they're shopping—and 63 percent of the time, they're comparison shopping. While 42 percent are looking for coupons, 34 percent are looking for product information on another retailer's website.<sup>1</sup> Customers also have an arsenal of additional online tools at their disposal when they return home. They know how to find discounts, and they're not willing to pay full price in-store if they know they can find the same product online. In both instances, they're willing to delay the instant gratification. This trend plays directly into the Amazon plan for domination.

To help to re-engage, retailers need the ability to provide the personalized experience that most shoppers have grown accustomed to online, but delivered in a physical space via their smartphones. Pull-on-demand product information, specs, reviews, inventory levels, prices, transaction history, loyalty points, and special offers customized for that shopper right at the point of decision. American

economist and professor, Theodore Levitt, called this "Future Potential Offering," and hailed it as the key to successful customer engagement. This is where empowering and inspiring customers begins. The real question is, how can the addition of the right technology at the right time and in the right place help to start the empowerment and inspiration process? What is the industry disrupting solution which will help to defend against, and even reverse the negative effects which plague brick and mortar retailers? The rapid changes which have been taking place inside of the customer experience can either *happen to your business* or *driven by it*.

### Re-engaging Customers with Bluetooth

New mobile technology advancements put into the hands of an ever increasing user population, coupled with the addition of a recent feature in Apple's iOS 7 called iBeacon, may very well represent the disrupting factors that retailers have been seeking. This is the possibility to reverse the effects of having so many informed mobile users inside your store from a threat, to a compelling advantage. Retailers are fast turning to Bluetooth low energy (BLE) to combat many of the operational and customer engagement challenges they face. The promise of BLE sensors is that retailers can regain the shopper intelligence they get from the digital world and apply it to a physical space, letting them deliver better targeting, personalization and tracking inside their stores than ever before.

These sensors may be used to assist shoppers to quickly locate the products they are looking for, give them the best deals and upsell opportunities at the point of decision and provide store associates with more tools to foster the entire customer experience. New tools which were once considered the exclusive domain of online retailers.

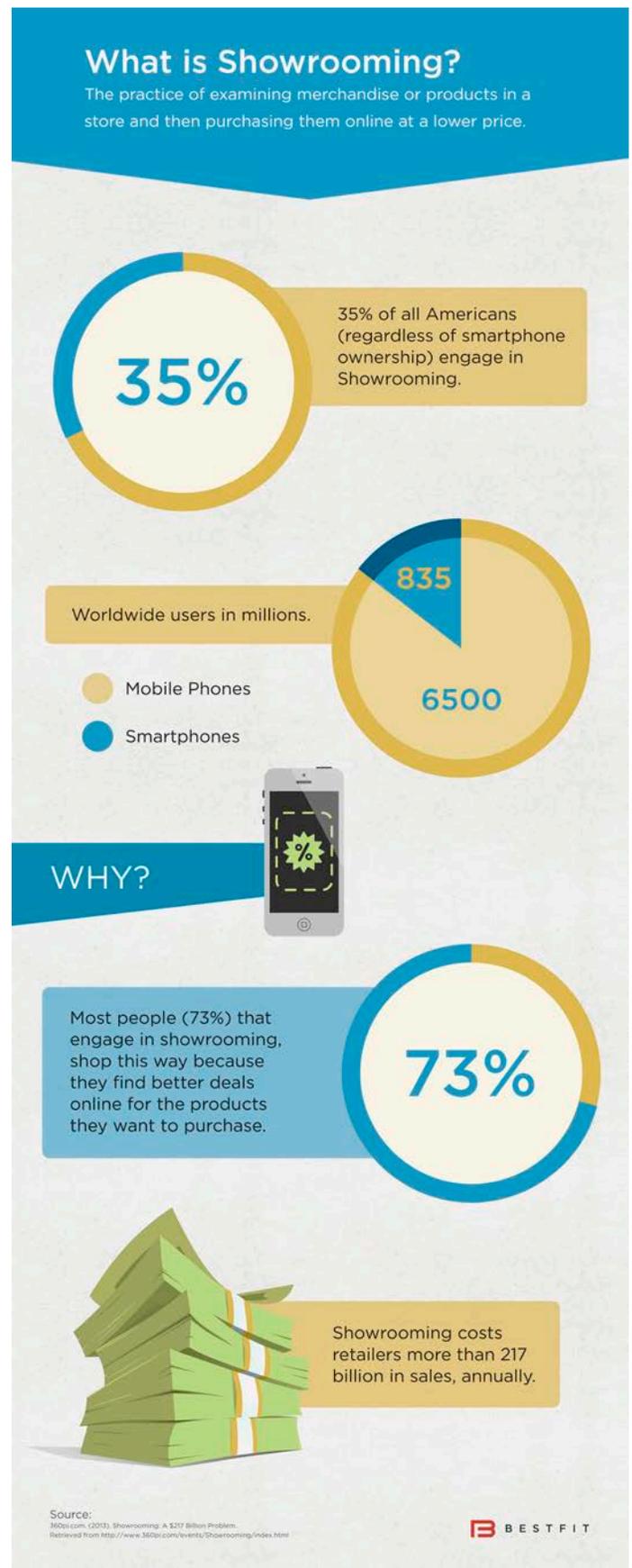
## CRITICAL CHALLENGES RETAILERS MUST OVERCOME

Retailers doing business from brick and mortar stores face fundamental challenges ranging from how to deal with the disengaged or lost customer, to how to improve the average cart size of their in-store shoppers. Addressing these challenges often requires a dose of new technology coupled with a lot of creativity.

One great example comes from Michaels Stores, Inc., North America's largest specialty retailer of arts, crafts, framing, floral, wall décor and seasonal merchandise, as they planned to launch one of the industry's early mobile apps. Michaels turned to mobile solution firm, BestFit Mobile to address a number of concerns associated with having to support an infrastructure of over 1,100 physical locations. The goals for Michaels was to develop a mobile user experience which would help to increase traffic to their stores, expand into a younger age demographic and better engage the customers they already have. Since its launch in 2011, Michaels has had over 2 million app downloads on the iPhone alone. Tapping new features including a QR code reader, craft project lists and integration with live events, Michaels was able to accomplish all of their stated objectives, leveraging mobile at the core.

## CUSTOMERS LOST TO SHOWROOMING

The widespread adoption of smartphones by consumers means that even while they are in the store, they can easily search for a better price, online, with your biggest competitor. Because of this, many have little loyalty to any one particular store. Customers have quick access to UPC and QR



code readers and applications that are immediately pulling up prices and information from other retailers. They are one “tap” away from closing the deal with someone else.

A full 35 percent of online adults are practicing showrooming, and 34 percent of them say they ultimately use the information to buy from a competitor.<sup>3</sup> This action costs retailers more than 217 billion in sales, annually.<sup>2</sup> [See infographic]

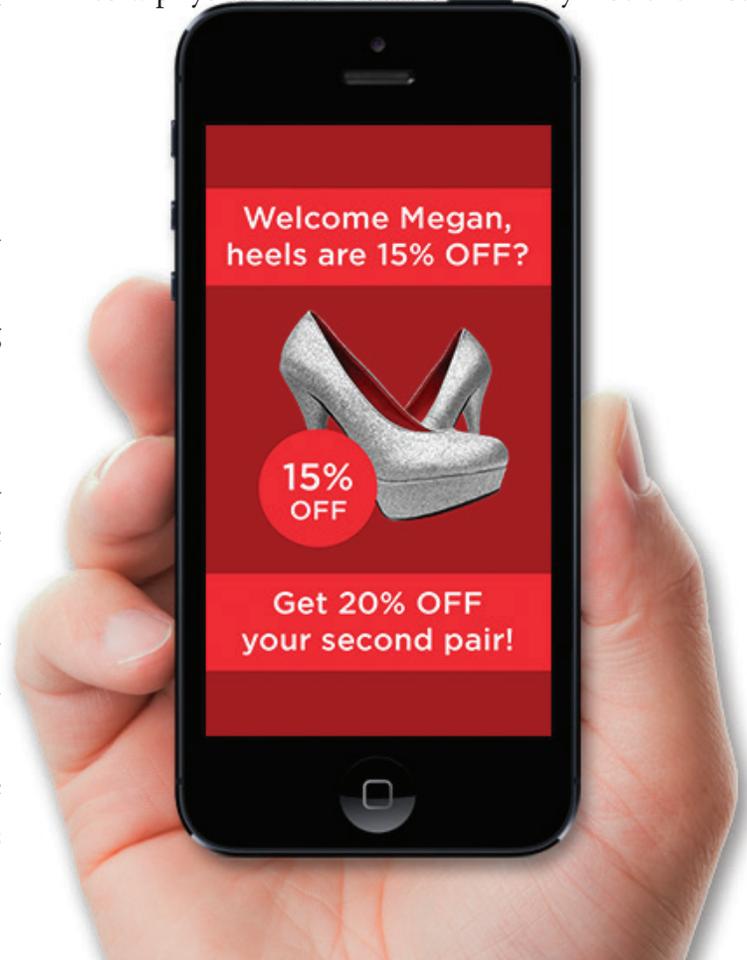
## WAYS TO AVOID SHOWROOMING

- Offer a price match to shoppers who download your mobile app.
- Continuously monitor competitive pricing online to make sure that your pricing is in line.
- Offer personalized coupons and offers
- Develop a private label product or include a package of related items which increases value and makes it more difficult to compare online.
- Arm your in-store staff with better tools which help them to compare pricing or customize an offer for each individual.
- Determine and market your total value proposition including other elements such as

extended warranty, installation support and repair, all facilitated through your app.

## NO TOUCHPOINT HISTORY

Consumer studies indicate that a shopper’s entry into a physical retail location is likely not the first



***“Bluetooth Low Energy (BLE) might well represent the disrupting technology to shift the effects of an ever increasing mobile population from being seen as a threat, to becoming a compelling advantage.”***

time that shopper has interacted with that retailer. This potential customer may have searched online for a product, looked at the manufacturer's site then headed to the retail location to make the purchase. They may also have seen a special deal or offer through social media which brought them into the store. The problem; it is nearly impossible to ascertain which people wandering your aisles came in the door as a result of which online activity. The challenge is in taking advantage of what we know about shoppers online and overlaying it to map to the shoppers you have inside your store.

## **AN INTRODUCTION TO LOW ENERGY BLUETOOTH TECHNOLOGY**

Faced with these challenges, retailers are already looking to Bluetooth Low Energy technology (BLE). This new suite of cutting-edge technology allows them to engage the customer inside the retail location via the same tools customers are using for comparison-shopping: their smartphones.

### **What is Low Energy Bluetooth?**

Bluetooth Low Energy (BLE) emerged in the early 2000's as a feature within Bluetooth 4.0, as an alternative to the seven-year-old Classic Bluetooth standard. The primary difference in BLE over Classic Bluetooth is that BLE uses much less

power and is designed to be simpler and cheaper to implement. It's also intended for applications which work within closer proximity, up to a range of 150 feet.

BLE is built specifically to consume small amounts of energy and make phone batteries last longer. Rather than using satellite signals to locate a device anywhere on earth as GPS does, BLE can enable a mobile user to navigate and interact with specific regions geo-fenced by low-cost signal emitters called "beacons," that can be placed anywhere, including indoors, and on moving targets.

## **WHAT ARE BLE BEACONS?**

Beacons are small, wireless hardware devices that transmit BLE signals via radio waves to your personal device to instigate a call-to-action which is customized for each user.

Further, retailers can easily arrange three or more beacons for trilateration, and achieve rough indoor navigation at a very low cost. Indoor navigation with BLE can go far beyond traditional geofencing, which leverages satellite positioning. For example, placing 15 beacons every 10 feet apart could create a "mesh network," with each beacon transferring different IDs to the phone and to each other. This would allow the network to detect a customer walking your aisles with a high level of precision.

## **WHAT IS iBEACON?**

iBeacon is the software feature launched within Apple's iOS 7 release allowing certain iOS 7 mobile devices to "talk" to each other and with other BLE devices in their vicinity. They can relate their locations in real time, without the need for Wi-Fi or GPS. iBeacon also gives access to consumers to

pull-on-demand location-specific product and offer information triggered by the physical BLE sensors.

## ADVANTAGES OVER OTHER LOCATION TECHNOLOGIES

**EASY UPDATES**—Beacons can be updated after they've been deployed.

**BATTERY LIFE**—A beacon can last up to two years on a single watch battery, even when constantly broadcasting.

**ADVANTAGES OVER GPS/WiFi**—BLE Beacons and iBeacon solve a long-standing problem with accuracy of GPS indoors, since GPS optimally requires line of site to the sky.

**ADVANTAGES OVER NFC**—BLE Beacons have a much greater range than near field communication (NFC) capable devices, which only work in very close proximities. Given that Apple has chosen BLE over NFC, it appears that the market to develop NFC-based solutions is limited to Android.

## BLE AS A SOLUTION FOR RETAIL THE CUSTOMER APP

The starting point is for retailers is to consider the store space in which they will be deploying a Bluetooth low energy solution. This is where the science comes into play and it will be necessary to engage with a knowledgeable partner to assist in the planning. The next element is the mobile app itself. To this, Apple has made it a lot easier for developers with the launch of iBeacon. In this case, iBeacon can notify and launch the retailer's app when the user passes through a beacon zone. The BLE beacons which are placed strategically throughout the retail location, would trigger the action which takes place inside the app. Beacon sensor programming needs

to be managed by an administration panel in order to keep track of placement. Examples of actions from the app include the delivery of coupons, end of season deals, open box specials, product info, reviews and videos. These can all delivered to users' mobile devices, right at the point of decision. Additionally, the refined location tracking provides customers with the option to tap for assistance, which quickly brings a sales associate to the customer's exact location in the store.

Further, when used in conjunction with cloud based data, push notifications, geofencing and traditional SMS, iBeacon technology will improve the precision of delivery of promotional messaging down to a much closer proximity and targeted to a precise demographic audience.

## THE ASSOCIATE APP

The power of BLE technology also puts more power into the hands of retail employees who could be alerted immediately when a shopper has entered the building. This gives the associate more options to personalize the experience for each customer. On the store floor, associates have the ability to use BLE beacons to trigger inventory lookups, additional product options and customer information, ultimately helping to facilitate their in-store purchases.

With a BLE capable application on a mobile device, the associate can have full visibility to all app users/shoppers in the store at any given time. They can see their purchase histories and preferences, loyalty member status, and can track their traffic patterns. This affords associates better opportunities for up- and cross-selling.

## THE BACK END

Bacons are “kind of” dumb. They basically emit a radio frequency which is designed to be picked up by another BLE enabled device and triggering an activity. What makes them “kind of” dumb is the fact that the beacon can also passively take information back from that other device and pass it along to other BLE sensors and mobile devices.

A lot of the real “magic” lies in defining exactly what the beacon-triggered activity will be, and also in interpreting the captured data which results. From an admin interface, each of the beacons can be identified along with the action taking place when a user breaks that beacon’s signal perimeter. This can be as simple as presenting them with a standard offer on the product they are standing in front of, to something which is a little more advanced, pulling in customer intel as well.

## PRESENTING OFFERS (ADVANCED):

1. What options or incentives are available to a premier customer?
2. For a new customer?
3. For a high-dollar transaction?
4. For a high-margin transaction?
5. For over-stocked inventory items?

## INFRASTRUCTURE

### CONSIDERATIONS:

An iBeacon enabled store environment requires investment in store infrastructure including:

1. Purchase of BLE beacon sensors.
2. Procurement and distribution of mobile devices for store associates.
3. Imaging store devices with approved apps.
4. Security and Mobile Device Management tracking (MDM)

5. Installation of Wi-Fi hardware for access to cloud data and analytics.
6. Ongoing support and refresh of technology

## RETAIL USE CASES

As our mobile-savvy millenium generation gains more purchasing power, BLE will be a key differentiating factor in the delivery of new services.

### Out-of-stock products. The Endless Aisle.

1. James enters Acme Sporting Goods to find the new paddles for his kayak that were advertised online. The problem is that Acme has sold out of the kayak paddles they have advertised.
2. Instead of telling James that new paddles are arriving on Tuesday’s truck (and allowing James to leave the brick-and-mortar store empty-handed), the in-store app can help James to order the paddles on the spot, having them dropped shipped directly to his home. This activity resulting in a saved sale.

### Loyal customers are in the store.

1. Jennifer is a sales associate at the Metro Clothing Company. Allison, a frequent customer with a history of spending a lot of money on designer jeans at Metro, enters the store.
2. Allison uses Metro’s BLE enabled app, so Jennifer is alerted via her tablet to Allison’s presence, and she can immediately review her history and identify that she is loyalty member.
3. Jennifer promptly greets Allison inside the store and brings to her attention the new jeans styles which just arrived yesterday.
4. Jennifer immediately starts to assemble a dressing room for Allison, based upon her preferenes identified inside the app.

### **Microlocation pull-on-demand deals.**

1. John is shopping in your store and notices signage in front of a display of a new pro sports team jerseys.
2. As John gets in close proximity to the display, a notification is sent to his phone for a special offer if he purchases both the team jersey and a team cap.
3. The special offer can be customized for the individual shopper based on their loyalty level or even by past purchases or behavior (their favorite pro football team for instance).

### **Open box and end of season markdown.**

1. Phil passes numerous aisles as he searches for a new bike pump.
2. He is guided directly to the product location in the store by the BLE enabled store navigation on his smartphone.
3. As a result, the app is aware that Phil is en route to the bike accessories, when he passes the aisle for car bike racks the app notifies him that there is a special “open box” special on a new Thule bike rack.
4. He stops at the location on the shelf with the special deal. An on-the-spot special that he may simply have walked by.

### **On-floor customer assistance.**

1. Evan heads to his local home improvement store to take advantage of a special deal on a new hammer drill which was pushed to him through the store’s app
2. He arrives at the store to locate the product, heading to the location where he would expect to see the drill.
3. He locates a similar product, but it does not

seem to be the same one that was advertised.

4. Evan simply selects the HELP button from within the app.
5. Roger, a store employee is immediately notified on his associate app on his iPad that Evan needs assistance.
6. Roger selects the request in his app which brings up a store map with the location highlighted where Evan is currently standing.

### **Providing a quick shopping experience with secure customer payments.**

1. Moira needs to run in to Electronic Emporium to pick up a USB cable for a presentation and she is in a hurry.
2. She arrives to find that the store is crowded and there is a long line at the registers.
3. Moira pulls up Electronic Emporium’s mobile app on her phone, scans the bar code on the product package and completes payment on the spot. Much like an online transaction.
4. She shows the receipt on her phone to the checker at the front door and leaves with her cable.

## **BENEFITS OF BLE FOR RETAIL**

Beacons are expected to become a major retail trend beginning in 2014. Both Macy’s and Apple have already announced an iBeacon solution to be launched in their stores. Consumers will see BLE beacons or interact with them in all kinds of scenarios. They can be deployed in various locations inside stores to detect user’s devices, as they move through the store. Retailers will gain significant insights into how customers shop, what brand decisions they make, and how they convert. We know online retailers have been benefitting



from these types of analytics for years, but brick and mortar stores were unequipped to leverage this advantage—until now.

## EVALUATING A BLE SOLUTION PROVIDER

When evaluating an BLE solution provider, consider these important requirements:

**Capacity to plan, develop app(s) and integrate the BLE solution.** This begins with careful planning of the store’s space for appropriate programming of the sensors. Next is the development of the mobile apps which will be necessary to face your end users, store associates and store management. The most capable providers will have indepth experience in connecting your mobile ecosystem into company databases and external APIs for optimal user and

offer customization.

**Dashboard With Key Metrics:** Look for a solution that includes a dashboard providing key intelligence around important metrics. This includes knowing how many people hit which beacons and knowing what products they were most interested in. This ranges from tracking how many offers were pulled by product to identifying the displays which generated the most traffic or longest dwell times.

**BLE Retail Lab for Testing:** Find a provider that has been involved in testing various beacon scenarios in their own lab. Providers should also offer testing inside your lab or pilot stores.

**History of Refining BLE Technology:** At this early stage of the technology, look for a provider that has from one to two years of experience refining BLE technology and getting it to work in a live retail environment.

## THE BESTFIT MOBILE ADVANTAGE

Designed to satisfy all the requirements outlined in this paper, BestFit Mobile helps retailers re-engage the customer in their stores by delivering personalized mobile solutions to help accomplish their business goal.

BestFit Mobile combines a history building complex mobile solutions for top retailers including Michaels, Harris Teeter, OfficeMax and Fossil with a deep understanding of how to leverage BLE and iBeacon to maximize retailers' objectives.

BestFit begins each engagement by evaluating the retailers' business requirements, existing processes, revenue sources, pain points, and strategic goals.

To learn how BestFit Mobile can help you personalize the customer experience, increase sales, and engage both employees and customers, visit [bestfitmobile.com](http://bestfitmobile.com) or call 888.248.0660.

1. <http://econsultancy.com/us/blog/62918-63-of-smartphone-owners-use-their-device-to-search-for-information-while-shopping>
2. <http://blog.airtightnetworks.com/showrooming-might-actually-be-good-for-brick-and-mortar-stores/#sthash.8TJVur3Y.dpuf>
3. <http://www.retailtouchpoints.com/in-store-insights/2137-14-retail-executives-share-technology-predictions-for-2013>

Additional Resources:

Michaels Webinar: How to Breathe New Life Into Brick and Mortar. <http://bestfitmobile.com/?landing=register-to-view-the-michaels-webinar-presented-by-bestfit-mobile>

iBeacon for Retail: <http://www.bestfitmobile.com/ibeacon>