Analysis of Promising Beacon Technology for Consumers

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Abstract

To be at the forefront of innovations that push brands forward, marketers and advertisers strive to create seamless experiences amidst the ever-changing landscape of digital and mobile technologies. This research delves into the forward-thinking opportunities presented by location-based marketing technologies. Through a quantitative research survey and a review of literature on existing applications and concerns, the author explored how marketers can make the most of beacon-based communication strategies. Overall, this study found that if brands are wary of consumer hesitation and keep consumer benefits top of mind, strategic and creative location-based implementation has great potential to increase brand relevancy in the digital age.

I. Introduction

Cell phones and the emergence of technologies like beacons[*] present brand marketers with opportunities for location-based marketing, targeting messages based on where the consumer is located. This capability to pinpoint a location may also provide insight into consumers' action, such as shopping, attending a concert or eating lunch. While this innovative technology presents a number of opportunities for strategic communicators, it also presents a number of challenges—the greatest being consumer hesitation to embrace push services that location-based technology relies on. Privacy regulations and mobile phone settings require consumers to subscribe to location-based services in advance so that consumers control push notifications and pop-ups, protecting themselves from being bombarded, especially with irrelevant or intrusive advertisements.

Marketers and communicators walk a fine line between maximizing brand utility and exploiting the invasive potential of this technology. Currently, consumers are required to download beacon applications and "opt in" to beacon services to take advantage of whatever experience is promoted. To overcome this challenge, advertisers and marketers should develop campaign strategies that create consumers' awareness of and increase their engagement in beacon technology, which allows advertisers to reach consumers at the most pertinent time and in meaningful places, with a feature most relevant to them.

This research attempted to help marketers and advertisers understand how to make the most of the potential that beacon technology provides for real-time personal engagement. With an overwhelming amount

[*] Using the Bluetooth low energy, or BLE, a beacon, a small wireless device, constantly transmits radio signals with a unique identifier to nearby mobile devices. If the devices have Bluetooth capability turned on and have an application that can interpret the signals, the signals trigger an action that is programmed in the application.

of messages on every platform, and more and more brands fighting for consumer attention, how can this technology be used to provide worthwhile experiences and help consumers navigate purchases? Based on both primary and secondary academic research, this study examined beacon-technology opportunities and introduced strategies that brand communicators can use to build trust with consumers and enable mutually beneficial utility.

II. Background

While the beacons themselves do not send notifications to enabled smartphones, they send unique location identifiers to apps, which are programmed to respond differently based on the data received. Via these low-power signals received by phone applications, beacons enable catered and strategically targeted push notifications on just about any smartphone as it enters a pre-determined locations.

Beacons usually look like palm-sized air fresheners, or adhesives stuck to walls, shelving units or products. Any number of beacons are placed throughout store aisles, depending on the size of the space and the desired precision of proximity measuring. A beacon, which has a battery life of about two years, constantly emits BLE signals to phones with their Bluetooth capability turned on. Enabling this capability is as easy as turning on Wi-Fi and, despite speculation, there is no concern of battery drainage. When a beacon detects a mobile device, the beacon sends location-aware signals to phone applications, which then act on the data delivered, often assisted by content management platforms. Pre-determined actions can range from coupons and offers to specialized in-app experiences, but the sky is the limit in terms of what this technology looks like and how it is applied.

Although the possibilities of application are broad, most beacon technology marketing efforts currently enable retailers to offer real-time in-store engagement and brand promotions, with accompanying analytics that prove return on investment. For years, e-commerce businesses have been able to strategically target specific consumers by using the power of big data they collected from the Internet. From cookies to targeted banner ads, there is no denying that most have come to at least accept, if not appreciate, the personalized online shopping experience, although many consumers were hesitant and uncomfortable at first. Beacon technology introduces this catered personalization to brick-and-mortar retail businesses.

This technology, which can activate recommendations, insights and support via wave signals, has the power to deliver custom branded content and start a conversation with consumers at a crucial time and location—physically within any given proximity of the product and within seconds of the potential point of purchase.

Apple recognized beacon's potential and introduced its trademarked iBeacon during the company's 2013 summer Worldwide Developers Conference. Any iPhone4 or later comes completely beacon-enabled. It wasn't long before Google followed suit ensuring that any Android OS 4.3 or later is beacon-enabled as well (Laird). Apple and Google made their software compatible with beacon, but don't actually make the beacon hardware. These come from more than 50 third-party manufacturers, with more likely to enter market in years to come (Thomas). Most notably, companies such as PayPal and Qualcomm are even creating hardware of their own. Other main players include Estimote, Sonic Notify, Kontakt, Gimbal, Swirl, Blue Sense and GP-Shopper. Most provide beacon management systems and services in addition to the hardware or software platforms (Danova). These innovative companies are not just factory-like product manufacturers, but rather they are strategic think tanks that will truly determine the future of location-based marketing technology.

Beacon technology is not to be confused with existing, more traditional location technologies. While NFC (near field communication), GPS and QR code technologies have similar location-focused purposes and properties, none are capable of being as widely accessible or strategically location-pinpointed as beacon technology. NFC is powered by the phone and requires an NFC chip, which iPhones do not come equipped with (Evans "What Technology"). And as the name suggests, NFC technologies require almost physical touch, responding only within four centimeters of distance, while beacon has the potential to engage up to 200 feet of distance (Evans).

Consumers are far too familiar with a GPS declaring: "you have arrived," as they hopelessly look left and right at what is surely not the desired destination. While GPS is great for navigating across a state, it does not map precise indoor locations. Maybe one day it will be able to direct consumers to the most optimal

parking spot, point of entrance and guide up the stairs and down the hallway to a meeting room but, at this point, GPS uses satellites or cell tower triangulation that does not permit the identification of indoor location (Hulkower). GPS and Beacon technology can probably be best differentiated between "determining if someone is in your neighborhood or in a particular aisle, standing next to a specific product in your store" (Brown).

Lastly, QR codes have likely reached their height in usage. This location-based code achieved widespread adaptation and broad usage due to the fact that it could be easily generated for free and was compatible with most smartphones. However, the fact that this code requires consumers to download an application and physically pull data for themselves has minimized opportunity for brands to offer features that can offer personalized targeting and engagement.

NFC, GPS and QR code technologies each demand a pull instead of a push approach, actively requiring consumers to use their mobile phones to seek branded information, offers or experiences. Beacon technology almost entirely implements a push approach, although it requires people's "opt-in" acceptance in the beginning. It does "push" targeted content to relevant users through a few layers of permissions. Bluetooth must first be enabled on the phone; and the consumer must also download the given brand or campaign-specific mobile app. And as of iOS 8, Apple has also required the app to be open for users to share their location. These provisions protect consumer privacy and prevent brands and advertisers from jumping the gun and pushing boundaries too close to "beacon-based spam." (Beacon V. IOS 8).

The real challenge is building a strong foundation of consumer trust so that app users, shoppers, and all different types of consumers are receptive to brands' efforts to create mutually beneficial relationships and enhance customers' experiences by leveraging the power of beacons.

III. Literature Review

Many articles explored beacon technology's potential, discussed the aspirational applications, and analyzed current beacon-enabled campaigns. Scholarly and business-focused studies have delved into what this technology and intelligence means for today's consumer-oriented culture. Business Insider Intelligence, a research service, named beacon technology "the most important retail technology since mobile credit card readers" and predicts a five-year compound annual growth rate of 287%, with 4.5 million active beacons overall by 2019 and 3.5 million of these in use by retailers. Senior Business Insider Intelligence Analyst Cooper Smith is optimistic about the success of this technology, reporting that 72% of retailers plan to be able to identify a customer when they walk in the store. However, Smith still expresses that retailers need to be wary of privacy issues. (Smith)

A number of sources, primarily technology-, business- or marketing-focused, have covered the emergence of beacon-enabled campaigns and applications. While in the experimental stage in late 2013, Tony Danova from Business Insider Intelligence began to cover the applications being contemplated across a variety of industries. He listed retail, payments, events, content delivery, transportation and in-home applications. Danova named retail the first and most obvious market for this technology and provided encouraging data from mobile marketing firm, Swirl, which reported that already 67% of retail shoppers had received an in-store alert, and of those shoppers, 81% opened or read the alert, and 79% made a subsequent related purchase. Some analysts have suggested that the best way to approach the app development would be to partner with established lifestyle or shopping apps. Swirl's data also suggests that shoppers are most likely, at 65%, to trust their favorite retailers with their location-based data (Danova).

Scholarly articles also covered the two-fold mutually beneficial potential of beacons. Digiday explained the opportunities at hand for stores and brands to collect consumer data and also to combat the practice of "showrooming," currently hindering brick-and-mortar sales as consumers check out products in person and then pull up better deals right on their phones in store to place orders on sites such as Amazon. Another potential feature being discussed for this technology's application is for stores to push notifications up to brands for bidding, meaning that they allow the brand that offers the highest profits to present its offer to the target consumer at the most crucial point of decision making—right in the aisle, before the purchase choice is made—via Beacon technology (McDermott).

Chain Store Age published a relevant piece about the evolution of consumer trust and how brands should be navigating the latest technological opportunities. This article also encourages companies to use

consumer feedback acquired from beacon-based initiatives to redesign stores, to rethink staff interactions and in-store guidance, and to reinforce the relevance of app integration and omnichannel experiences. This article also examined a very fundamental truth emphasizing that consumer trust is the most crucial element to successful applications of new technology. Declaring that relationships are key to taking risks and making bold business decisions, this source advises that brands "communicate the benefits, deliver a quality experience, and keep building trust through proactive tech security and strong responses to any breach" (Beacon V. IOS 8). The conclusion of this article is that prioritizing relationships with consumers is key to successful beacon application.

The existing beacon-related literature has successfully started the conversation about the various opportunities and potentials for brands and advertisers to make the most of this technology. This study aimed to analyze these existing applications and present an overview of how marketers and advertisers can build beacons into their future strategic campaigns to increase the relevancy of communications in this digital age.

IV. Analysis of Applications

Since 2012, most high-end smartphones, including those manufactured by Samsung, Apple, Microsoft and Nokia, have come readily equipped with BLE technology. So it may be surprising that this technology hasn't already become a global tech trend. Well, some individuals may argue that it has (Evans "What Technology").

Most big name early adaptors have started by trialing this technology throughout a rather small percentage of their national footprint. All but an unlikely suspect—Major League Baseball—that has placed iBeacons in 28 of 30 ballparks across the country. As fans' check-ins of the brand's app more than doubled after the first season, the league's content strategy and implementation can be interpreted as a homerun (Kharif).

Based on the user's exact location within the park, the app offers utility such as the ticket barcode pulling up a gate bar as the user approaches the gate and once inside and a mapping feature accurately directing them to their seat. As the app follows the user through the stadium, it even provides educational fun facts about historical plaques or events (Brown). Of course, it includes a social media element, as well as promotes concession and souvenir sales. The app also gathers analytics about fan behavior in stadium so that it will enable marketers and franchises to strategically enhance these users' ballpark experience (O'Donnell).

Starwood Hotels & Resorts has implemented iBeacon in 30 hotels to help concierges greet VIP arrivals by name. Using this kind of application can help service-focused industries immediately identify loyal consumers and provide rational benefits, such as expedited check-ins as well as just greeting guests by name, prompting relevant conversations, and providing a more specialized catered experience (Kharif).

A museum in Antwerp, Belgium, has applied beacon technology to provide visitors with customized experiences as they explore at their own leisure with a very well-versed tour guide in hand (Brown). The idea of using beacon-technology for educational exhibits and walking tours is one of the least intrusive and most hesitation-free applications, with a transparent and obvious function of education as opposed to solicitation of product choice. Location-based apps can provide the opportunity for more brands beyond museums or educational institutions to really get creative and establish engaging experiences

As of Sept. 2014, Miami International Airport became the first airport in the world to commit to a comprehensive installation of beacon technology. "Miami has made it easy for airlines, and other partners working at the airport, to take advantage of iBeacon technology and provide information that is relevant to the passenger's location or stage of the journey," says Jim Peters, SITA chief technology officer. "And, of course, it is not just for passengers; beacons can be used for staff notifications and to spread operational information—such as temperature, noise levels, vibrations, etc.—throughout the airport to allow efficient operational management" (Garcia). The potential of using beacon technology in today's airports was examined by Sita Lab, an airport technology research team that reported the potential for multiple airlines to share beacons that are carefully managed by the airport at a relatively low cost ("Beacon Technology"). It might seem ironic for one of the highest security-aware industries to embrace and accept beacon technology before others, especially those that hesitate over the sharing of information, but it also makes sense that consumers see a very clear utility from airports implementing these technologies. This application showcases the opportunities for multi-company partnerships that may be relevant for any type of business that collaborates with many others, such as any other sort of transportation service, as well as shopping malls and resorts.

Hillshire Brands was able to recoup a measurable return on investment to its location-based marketing experiment, which implemented iBeacons in 10 U.S. test cities and pushed messages via relevant apps such as recipe service, Epicurious. The brand was able to report that recipients exposed to this targeted location-based marketing initiative were 20 times likelier to buy its American Craft sausages, deeming the campaign a success (Kharif). Large corporate brands are most willing to experiment with bold technologies at a smaller scale, achieve success such as that experienced by Hillshire, and then expand and intensify installations across the world.

The possibilities of BLE technology really are endless, and when creatively put to use, it is applicable to bettering communication initiatives by embracing digital strategy throughout a diverse portfolio of industries. Noah Bass, co-founder of Aisle 18, a Toronto-based retail-app developer, envisions supermarkets encouraging consumers to create in-app grocery lists, then incorporate beacon technology to help shoppers navigate the store, and send reminders about certain items they listed that are nearby or on sale. "'People don't just want to save time and money; they want to find products that they need or want'" (Brown). The key to optimizing beacon engagement is to prove to consumers that this technology increases their productivity, savings and overall experience in any given space.

The connected home is well on its way with mobile apps that provide consumers with control over music volume, thermostat temperature and whether or not their garage door is closed—all right from the couch or all the way from the office. BLE has the potential to take this technology to the next level by offering custom-programmed connected behaviors, minimizing even having to think about such routine tasks that could be automated from users' phone and based on their location within the home (Brousell).

Talking about connected technologies, a Boston-based startup, ByteLight, has collaborated with GE Lighting and Philips Lighting to create a technology that combines lighting figurations with BLE capabilities. Each bulb is location-aware and when installed in-store, helps track and pinpoint target shoppers via iBeacon, potentially indicating that retailers may not need to buy separate hardware (Kharif). Gerben van der Lugt, business development leader at Philips Lighting, said: "The beauty of the system is that retailers do not have to invest in additional infrastructure to house, power and support location beacons for indoor positioning. The light fixtures themselves can communicate this information by virtue of their presence everywhere in the store'" (Meyer). The possibility that every light bulb of the future could potentially be beacon-enabled and location-aware indicates the opportunity for incredibly vast accessibility and reach, also contributing to this technology being very likely accepted in years to come.

British department stores House of Fraser and Bentalls are trialing beacon-enabled mannequins. Shoppers who have downloaded the app can receive information about fashion and offers within 50 meters (Vizard). This application, in particular, has been criticized for providing a robot-like futuristic experience as opposed to retailers implementing the technology to promote more engagement between sales associates and shoppers. An alternative solution has been recommended to use beacons to provide sales associates with instantaneous, relevant and personalized information, such as what's on shoppers' wish lists, what their purchase history is, and what an average transaction for each individual may look like, in order to help sales associates offer a unique and efficient in-store experience. This is one way to work around spam-weary shoppers while still leveraging the big-data capabilities.

"'Retail is struggling and I think the way you fix retail is by creating experiences in a physical store environment that you can't replicate without being in the store, and I think beacons can play a role in that,'" reports Asif Khan, president and co-founder of the Location Based Marketing Association (LBMA), an international group dedicated to fostering education, collaboration, innovation and effective implementation of location-based marketing solutions (Laird). Khan explains that retailers often blame technology, critical of showrooming as smartphones in store create a screen for price comparison. Instead, he suggests embracing the opportunities this technology presents and providing a more personalized, emotional and connected in-store experience.

With more than 75% of North American retailers saying they're working to identify customers the moment they enter the store, why not also pull up their wish lists and purchase history to send them in the right direction? Or provide a special offer they won't be able to resist (Beacon V. IOS 8)? Retailers can also use beacons to track patterns of customers and provide data to product suppliers about their dwell-time near certain areas of the isle, to more accurately price high-traffic shelf space or be cognizant of an area of the store that doesn't get much foot traffic. This big data could change the brick-and-mortar business to benefit the consumers and all those invested financially.

Steve Cheney, senior vice president at Estimote, an iBeacon hardware and software developer, is proud of the many partnerships they've solidified with high profile companies across the country. "'We have half of Fortune 500 developing with us,'" he said (Kharif). While corporate brands, advertisers and marketers are on board and ready to go, it's obviously shoppers who will take the most work to convince. One study suggested that only 16% of consumers are prepared to give companies more information in order to see more relevant advertising (Davies). The statistic is not impressive and the fact is that broadly speaking, customers are still not completely sold.

Analysis of Concerns

When cookie tracking was first introduced back in the 1990s, consumers resented the tracking of their online behavior. However, today it is a successful and acceptable practice that both consumers and businesses benefit from. Ads are usually relevant to consumers and items that follow prove to eventually end up in shopping carts (Laird). Similarly, the acceptance of beacons in retail is predicted to occur after a stage of resistance, fueled by anxiety over the collection of data and information. This will require marketers, advertisers, brands, and app developers to thoughtfully ease into the use of beacons, while recognizing the fact that invasive implementation could be detrimental to consumer trust.

Although the beacon-enabled, location-based apps require that users "opt-in" before the location based marketing is actually activated, there has been controversy over whether or not some of the agreement terminology is specific enough to communicate the amount of data consumers are agreeing to share. "'Brands have to figure out the boundaries for their shoppers and mitigate risk in advance'" (Beacon V. IOS 8). A recent study by a location-based retail app company reported that 71% of mobile app users do not like the idea of being tracked in-store, and 56% say they are not interested in push notifications while shopping (Laird). However, the number of smartphone and tablet users who would be willing to allow brands they like to send them offers to their devices based on their location increases 8% when asking just ages 16-24, indicating Plural to Millennial generations' higher acceptance (Hulkower, Sender).

Asif Khan of the LBMA suggested that retailers should be responsible for ensuring fair messaging strategies and relevant beacon applications. "There's a lot of data science that needs to go into the back end of what we do with these beacons and what types of messages we push and how frequently we push them,'" he said, proving his point by stating that just because he walks by a hotdog stand doesn't mean he's hungry at all— never mind for a hotdog (Laird).

In time, beacon-enabled tools will likely become cost-effective alternatives to paper fliers. But for now, the cost may prohibit small retailers from making any bold moves. Though individually inexpensive, businesses are looking at a $10,000 - $1 million investment to install and integrate with the store's sales and inventory systems (Brown). Although there have been successful applications by innovative brands and the beacon is on its way to potentially being the cost of a light bulb, for now, beacons are only in less than one percent of U.S. stores. Most companies are still warming up to the idea and consumers aren't quite sure how to feel (Kharif).

Analysis of Perceptions

To understand how consumers feel about beacon applications, the author of the current study distributed an online survey through social media among a convenience sample of recruiters. They were asked three questions: their age, incentives they look for in return for location apps' access to their location, and their feeling toward location-based apps.

Among 76 individuals who responded to the survey, 55 (72%) were Millennials aged between 18 and 23, followed by 11 (14%) aged over 50; 9 (12%) aged between 30 and 50; 1 (1%) of aged between 24 and 29. The following shows their answers to the question.

Regarding a question about, "How do you feel about smartphone apps being aware of your location?":

• Only 3% of respondents were "completely in favor," indicating that this technology has a long way to go before consumer trust is a norm and location awareness is *not* perceived as irrelevant or invasive.

• However, 45 respondents (59%) indicated being in favor of smartphone apps than can be aware of their location if the apps use this information to help them. This is a promising and encouraging statistic for brands and marketers, even though this could also be interpreted as a curios-

ity and eagerness for consumers to learn more about how smartphone apps could help them when they are willing to allow location awareness.

- Twenty-three respondents (30%) were against the collection of location-based data, showing no interest in giving brands or advertisers the opportunity to prove why this awareness could be beneficial. This group will pose a challenge for communicators if the conversion of their mind is demanded.

- Five respondents (7%) were indifferent to location awareness, implying the need for education that could show value and prove utility.

- One respondent selected the "other" category after writing: "It's big-brotherish, but if it helps me out and doesn't invade my privacy I'm coo[l] wit[h] it."

Considering that the Millennial generation has grown up in the age of digital footprints that are impossible to delete, they generally more accept big data collection. "'Brands have to tread lightly and be transparent,'" said DDB mobile director, Dirk Rients. "'But consumers are open to sharing certain data with brands and advertisers as long as you're providing some value to them'" (McDermott). While not necessarily in favor of privacy invasion, this generation is most willing to accept that some information collection could be worthwhile and make certain aspects of their lives easier. To find success models, brands and marketers have to communicate accompanying benefits and prove that benefits outweigh any associated risk.

Understanding Opportunities for Brands and Advertisers

In the same survey, the author asked the types of incentives that would lead respondents to allow smartphone apps to access their location. When they asked to select all choices as location-based incentives they look for in return for allowing smartphone apps to access their location, 54 (71%) of 76 respondents chose coupons and offers, followed by 37 (49%) for news and information; 10 (13%) for scheduling and organizational tools; 8 (11%) for games and entertainment. Eleven (14%) responded that nothing would incentivize them to give location information to apps or brands.

Given that most consumers indicated interest in coupons and offers even when they were not hinted at the benefits of location-based notifications in the realm of shopping, the result is good confirmation that this technology can be applied in appropriate categories of businesses. It also implies that consumers are going to permit businesses to access their location data only with appropriate compensation.

Some suggested that brands and retailers would leverage beacons as a good non-invasive strategy for internal communications, for example, providing a front-desk manager or store employee with information about the consumer, helping facilitate more organic engagement, and improving face-to-face interactions. It is, however, unlikely that this would be successful as a main goal of a beacon strategy, as consumers might be hesitant to provide personal data to help sales people handle their jobs. Rather, this would probably best serve as an additional feature and benefit for providers. While the consumers themselves do not identify emotional benefits as conversion factors, brands and advertisers will find that the emotional benefits are crucial to campaign success and mutually beneficial utility.

There are other beneficial opportunities besides coupons and offers. For example, loyalty programs that reward customers for their behavior within a store, such as shopping with friends, just walking into the store or completing a purchase, would encourage app engagement (Smith). Also, 55% of consumers who don't use mobile shopping apps are hesitant, believing the apps would slow down rather than speed up the trip to the store, identifying an opportunity for brands and marketers to create features that make the shopping trip more efficient and be sure to communicate this utility. (Smith)

The most obvious form of location-based marketing is the usage of GPS-like maps to track and direct customers very accurately, even indoors. This opportunity should be leveraged to help shoppers maximize their time spent in store. It would be interesting to explore communication of "beacon technology" in association with indoor and more accurate GPS technology – given that GPS is a technology consumers are comfortable with and trust, especially highlighted in this study's online survey as again, 5% expressed this without prompt. Value could also be added by providing additional features to the actual beacon technology itself, as opposed to the individual mobile application it communicates with. For example, some vendors are adding more advanced features to their beacons such as Wi-Fi capabilities appreciated most by consumers. Providing consumers with access to these additional features could potentially make them more open to the capabilities that drive revenue (Smith).

Advertisers might also strategize how to leverage connecting beacons with popular social apps, such as Facebook and Pinterest, to send personalized shopping recommendations based on brands or products their users have already liked, shared or engaged with online (Smith). So relevancy is key. In a study conducted by Swirl, 41% of the shoppers who did not open in-store alerts said they ignored the alert because it was irrelevant to their shopping experience, while 16% claimed the alerts were annoying (Danova). Relevancy of messages is something brands and advertisers must prioritize, especially considering the potential of this technology to effectively pinpoint and target consumers. This requires strategic qualifications for messaging and implies a commitment to ensuring that irrelevant messages are not delivered in order to build and maintain consumer trust. Among those who ignored the in-store alerts, 6% chose to not opt-in and 37% claimed that not enough value was provided (Danova). These numbers should be encouraging for brands and advertisers, but prove the necessity for strategic communications plans and very targeted campaigns that put valuable messages in front of the right audience at the right moment.

V. Conclusion

Beacon manufacturing and in-store mobile marketing companies continue to target brands and advertisers with their technologies, confident that the budget will soon be allotted by companies. Swirl Networks, an iBeacon marketing platform provider, published a study indicating that 79% of those consumers who received a push notification to their smart device over six months time, made at least one purchase as a result (Charness). With such indicative potential to drive purchases, the industry is confident it won't be long before beacons are part of our mainstream American life.

Content creation and content marketing are trending among consumers and in high demand within agencies. Beacon technology presents a new channel marketing opportunity with need for great creative content. Further exploration should consider that display and video will be the fastest-growing mobile ad formats, expected to grow at a compound annual growth rate of 96% and 73%, respectively, between 2013 and 2018 (Hoelzel). It is yet to be discovered how beacons can support video streaming and bandwidth delivery, but given that video is where the ad spend will be, it surely won't be long before beacon investors find a way to include location-based marketing channels where advertisement money is spent. These companies will also be able to leverage the knowledge that in-app mobile ads perform much better than mobile web ads with click through rates averaging .56% compared to .23%. Beacons present a channel to deliver video in-app, and many individuals don't think it won't be long at all before advertisement dollars come knocking at the door.

Once the initial investment is made, it is really up to brand communicators to determine whether shoppers will adapt to "appreciate the service or resent the intrusion" (Brown). The opportunity is there, but it is worth recognizing that the most successful applications were rewarding due to their creative, strategic, non-invasive implementation and mutually beneficial opportunities for the brand and consumer.

"'People are already comfortable with the idea of a content strategy for social [media],'" said Chad Rodriguez of beacon manufacturer, Sonic Notify. "'Beacons will simply require a new content strategy for your physical space.'" It's up to marketers and advertisers to strategically and creatively determine what's next. For those ready to build that content strategy and invest in this innovative opportunity, it is absolutely crucial to build consumer trust, ensure relevancy and effectively communicate branded utility, especially as the BLE technology and brick-and-mortar shopping experiences come together to change the way consumers navigate stores, make purchasing decisions and digitally engage with brands.

Acknowledgments

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