

INTRODUCTION: A Two-For-One Proposition For Retailers

To suggest that the retail industry is drastically and rapidly changing is an extreme understatement.

Technology, more specifically what's behind online and mobile shopping, is behind the vast majority of recent and anticipated changes in retail. To remain competitive, retailers have been forced to adapt to technology geared to making ever more convenient, accurate and pleasant the means by which they identify and fulfill to consumers' wants and needs.

But they also have the opportunity to use technology to do as much for maximizing their own operational efficiencies as they do for catering to consumers. This white paper looks at LED-based indoor positioning and how the brick-and-mortar retail store – the mainstay of the ever-changing shopping landscape – can use this emerging technology to improve its operations.

Retail Doors Are Wide Open

Recent efforts to predict the demise of the brick-and-mortar retail store have not only been inaccurate, they have been met with an opposite reality. Industry studies continue to find that the large majority of customers, as much as 85% by recent counts, still prefer to shop in a physical store. And, ecommerce retailers are popping up in shopping malls and other venues to take “click-and-mortar” retailing to the next level, demonstrating a telling twist in omnichannel-marketing dynamics.

Consumer tastes can greatly alter the mix and concentration of retail offerings. And, the digital experience – whereby shoppers can shop without leaving their home – can gain a firm foothold among consumers, particularly young ones. But the message is clear: Consumers still largely enjoy the experience of shopping in a physical retail setting.

Still, retail boutiques and warehouses alike are vulnerable to other rapid changes that are occurring in the retail industry, and some changes present greater challenges than others.

Integrating seamlessly with an online and/or mobile experience, for example, presents many critical hurdles – some that hold the power to redefine even the most Herculean brands. But, these are being mitigated today with an enormous array of off- and on-the-shelf technologies. Whether helping to tame supply chains or consumer behaviors, these technologies help facilitate very important migrations to e-commerce, m-commerce, social commerce or whatever might come next.

Changes that affect the very real estate on which they sit are unique to traditional retail stores, but shifts in land costs, lease rates, codes, traffic patterns, etc., are relatively easy to prepare for or manage. That's because commercial real estate, as a concern, moves slowly and somewhat predictably.

Last but not least is the challenge to trim operating costs in the face of tightening operating budgets. It is a widespread challenge that presents today's traditional retailers with some of their biggest headaches, especially given the electronic evolution of the industry as a whole. But importantly, it's one being addressed successfully by many retailers with what some might consider an unlikely solution: their lighting system.

LED Lighting Is A Dual-Purpose Asset For Retail

Light-emitting diode (LED) lighting is no longer “simply” digital, solid-state lighting that provides a long life of the light source, a low demand for maintenance, and supreme energy efficiency. An LED lighting system is also a system of semi-conductors that can be used to communicate with smart phones in order to enhance the in-store customer experience.

It works by way of transmitters, or beacons, integrated into the LED lighting system, plus digital mapping of the coverage area, a smart phone or tablet outfitted with a camera and/or Bluetooth® technology, and an opt-in user app. Similar to GPS, or global positioning system, in the outside environment, this system creates an indoor-positioning system (IPS) and is based on visual light communication (VLC), which in no small way supports the Internet of Things (IoT).

Connecting to mobile devices through Bluetooth®, the beacons facilitate a number of functions that are helpful or informative to shoppers and retail employees alike. While much of the attention of IPS focuses on its ability to engage and influence consumers, the same system is also being used by store managers to maximize operational efficiencies.

Benefit #1: IPS Adds To Capabilities Of Store Employees

Squeezing the traditional retailer’s budget most severely is one of the very things that make them traditional: labor. Rising hourly retail wages, now hovering at an average of nearly \$11 according to the Bureau of Labor Statistics (BLS), plus increasingly high turnover (currently at 5% per month, says the BLS) and employee-training costs are putting greater pressure on these retailers’ budgets and customer-care performance at the same time their stores are being reshaped by The Digital Revolution.

To get the most bang for their labor buck, store managers can enhance employees’ productivity and overall skill sets by arming employees with IPS technology of their own. Among the use cases:

- Store associates can be deployed anywhere in the store they’re most needed, or where they are most adept, to tend to a customer or a crisis, to make a high-margin sale, or to locate a customer’s item. Imagine never having to call a cashier to open a register or a locked case; an automated signal could identify any such need based on in-store traffic patterns. This “just in time” assistance goes a long way toward satisfying customers.
- The knowledge gap that often exists between veteran employees and new employees can be lessened as IPS is used to feed product or store information to all employees, regardless of their tenure, or between store employees as a way to increase service levels. This can be of particular use for season employees, common in retail.
- A manager can optimize coverage patterns from a desktop or a mobile device to maximize the effectiveness of each employee’s location assignment, or change the associate-to-customer ratio at any given time.
- Associates can assist customers on a micro level with IPS which can integrate with other omnichannel strategies such as “buy online/pick up in store,” or BOPIS. Associates can optimize their pick route while they gather the purchased items, allowing for even the least experienced store associate to easily locate and retrieve the purchased product, which can then be immediately deducted from the store’s inventory.

- Associates can better support customers looking for assistance. Like online “chat now” or “help” functions, IPS can provide customers the ability to ask for help immediately when they have a need and associates can answer in real-time or be deployed directly to the customer, in an Uber-like assignment scheme.

Benefit #2: IPS Provides Data For Superior Store Analytics

In marketing, information about consumers is power. Online technologies have provided a tremendous amount of information about consumers to players in electronic, mobile and social commerce, but traditional-commerce retailers lose that advantage without making significant investments in manual consumer research. IPS technology, however, can level the playing field by providing in-store retailers with key data about in-store consumer behavior.

Examples of data that IPS can easily provide to retailers in real time and with greater accuracy and/or with less expense than traditional research include:

- ✓ number of store visitors
- ✓ dwell time in a particular department or aisle
- ✓ number of departments shopped per store visit
- ✓ length of time spent at a promotional kiosk or near an advertised item
- ✓ number of customers assisted within a given timeframe
- ✓ revenue amounts of consumers' in-app purchases
- ✓ real-time inventory counts

It's not hard to imagine the benefits of having such key data on hand, at any given time. And some of this data can be aggregated to enhance merchandising data that retailers use and provide or sell to brands. For example, our research suggests that brands are eager to get better and less expensive navigation and dwell-time data. Maintaining ideal – even just-in-time – levels of inventory, staff and other resources is made possible with this type of data never before made available in the traditional retail setting.

Benefit #3: IPS Actually Pays For Itself

Few technologies have the ability to provide such continuous return on investment as that promised by IPS technology. The LED lighting fixtures that facilitate IPS already provide significant savings in energy (80 percent or more) and maintenance costs over traditional retail lighting solutions. And, local utilities often offer rebates or similar incentives for installing LED lighting and/or lighting controls. That ROI alone is worth pursuing the game-changing technology of IPS, but there are other reasons:

- No extra labor, hardware or maintenance – not even batteries – is needed to support IPS technology, so ongoing costs are minimized.
- IPS is enabled in energy-saving LED luminaires that deliver significant energy savings of 50% to 80% or more and can qualify for government tax incentives, supporting an attractive payback for retailers.

- Data that stores can amass from IPS technology can be of great market value to retail brands that understand the importance of creating loyalty through old-fashioned, face-to-face interactions as well as through newer marketing channels.
- Similarly, the privilege to communicate with customers at the point of purchase and during their decision-making is of value to brands; this IPS-enhanced access can give brick-and-mortar stores a boost in merchandising revenue.

CONCLUSION: IPS Is The Answer To Maximizing Stores' Operational Efficiencies

At a time when their budgets are shrinking and their very existence is the subject of frequent deliberation, traditional retailers are in need of a break. Indoor-positioning systems should be given serious consideration as the very tool that can give brick-and-mortar stores market parity with their online-based competition.

The technology has the capability and capacity to transform the in-store shopping experience for the retail consumer, and its benefits for store operations are significant. What's more, the technology that can enhance revenue and improve retail store operations pays for itself quickly. No other technology offers such a compelling value proposition for retailers today. It's what today's most frequent users of omnichannel marketing tactics – young e-commerce, m-commerce and social-commerce enthusiasts – would call a no-brainer.