# Retail in the Digital Era: Combining Analytic Technologies with Digital Signage to Boost Sales and Engagement

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Modern retailers must stay on top of technology trends to stay relevant and aligned with their customers' changing needs. According to Deloitte,[1] "With more shoppers – both in the developed and developing worlds – embracing cultural trends and gaining access to technology that will allow them to be 'connected' 100 percent of the time, retailers worldwide need to advance their own offerings to fit the behaviors of this new consumer."

Digital signage within retail stores, coupled with analytic technology, advances the retail space, honing marketing techniques to provide smarter content. Analytic tools dissect data captured by biometrics, RFID, beacons, and touchscreen technologies to cobble together a multidimensional portrait of the behaviors and habits of a person or group of consumers. Exact slices of a desired demographic can be targeted by using these tools to gather information about a customer and his or her level of interaction and engagement with a product. This information can then trigger predetermined content and supply amazing insight based on the knowledge supplied to the system.

**Biometrics and Digital Signage**

Biometric technologies utilize cameras to scan physiological characteristics of humans, such as the physical locations of eyes, jawbones, mouths, and ears to create a geometric pattern that is analyzed by mathematical formulas to identify the age and gender of people watching the display.

This data set supplies statistical information, which can be used to understand the audience and then trigger content that will be meaningful and impactful to them. Further, this technology can track dwell time to calculate engagement with the signage system. In some cases, these platforms are now able to understand facial expressions and supply data back to the retailer to better understand how the consumer feels about the signage and content. This kind of technology has been around for years, but only very recently has been deployed to help digital signage deliver truly meaningful content.

Biometrics, when coupled with digital signage, has the ability to:

- Measure passing traffic, viewing audience, age, gender, dwell times, effectiveness of screen placement, and even mood.
- Serve content based on custom criteria and real-time demographics.
- Measure content effectiveness remotely in real time.
- Monitor analytics from any location and view displayed content
- Adjust content from any location to achieve better reach.
- Present on-screen options for check-in, loyalty programs, surveys, and dynamic pricing and product information.

Biometrics and digital technology supply data that retailers can use to best understand their audience and create stronger target marketing to their customers during the shopping experience, engaging customers while increasing sales and creating stronger branding opportunities for retailers. This marketing can be pre-supplied using planned strategies based on "known" shopper data, or can be contextual and dynamic messages triggered by age and gender.

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[1] Deloitte, Global Powers of Retailing: Navigating the New Digital Divide, 2016.

**Tying Analytics into Digital Signage**

The biggest question for retailers is often how to calculate return on investment (ROI) of digital signage. Unfortunately, there is no magic number or formula, and calculating ROI is one of the hardest things to define. That's why retailers who implement digital signage need to rely more on return on objectives – ROO. By focusing on achieving their objectives and how they will be measured, a true basis for their ROI can be created. Using analytics is a great way to achieve this measurement.



Intense competition for a customer's attention and dollars means that retailers need to be savvy about how they market to consumers. By better understanding their customer engagement, the retailer is able to create a more meaningful shopping experience for the customer while increasing average sales by triggering content, tracking behaviors, and creating stronger brand strategies for retailers as well as other markets.

Biometrics, analytics, and digital signage can be combined for maximum benefit. Picture this at a grocery or specialty food store: As a customer picks up an item from an end cap, a digital display above the item shows allergy and caloric information as well as interesting tidbits like the region of the world the item is from, while another display shows popular recipes that use the food item. As the customer selects a recipe on the touchscreen, the display pulls information from a database to show where the other ingredients can be found in the store.

Customers leave with the makings of a great meal, and the store increased its sales by using data and digital displays to suggest items the customers might not have purchased on their own. Meanwhile, a camera with biometrics capabilities captured the demographic of the shopper and how many items were picked up and purchased from the end cap, and a database stored that information. This supplies the retailer with information on trends, customers, and engagement that allows for stronger understanding and analysis of future marketing decisions.

A POS system also can be integrated with the analytics and biometrics components. A store thus could see how many advertised items ended up on the same receipt, what items are being purchased together, the customer's demographics, and whether items were purchased during times they were advertised on digital displays, showing the true impact of an ad campaign on a screen.

Analytics and biometrics technologies have replaced data collection and analysis methods such as customer surveys, security camera footage, and spreadsheets – which seem quaint and old-fashioned in light of these advancements.

**Triggers: Beacons and RFID**

Triggers such as beacons and RFID coupled with mobile phones have disrupted normal ways of retail advertising and communicating.

Beacons are Bluetooth-based, one-way communication tools that must be opted into, letting a business communicate with a consumer entirely via a mobile phone. After a customer opts in, communications can be pushed to a smart device to increase sales or drive foot traffic.

For retailers, this means that pop-up ads or coupons can appear on a customer's smartphone as they shop. Beacons can even be used in a mall environment to detect when a customer is near – not yet in – a store, and use that information to bring that customer in. For example, a mall store could see via beacon that a frequent customer who has opted into receiving information about promotions is a few doors away, in another

store. The store can push a promotion to the customer's smartphone that tells him to come into the store in the next hour for a percentage or dollar amount off a purchase.

RFID coupled with digital touchscreens allows a retailer to learn what items customers are looking at or picking up, triggering product-specific digital content while creating a better interaction with the store brand and higher sales. For example, as a customer is looking at a shirt, the RFID tag activates nearby digital displays that suggest pants or a jacket that would look good with it and where the customer could find those items in the store. As the customer scrolls through the options on the touchscreen display and picks out a jacket, he or she can hit a button that tells a store employee to bring it over.

RFID and sensors also are creating new ways of keeping track of inventory and preventing shrinkage. RFID tags can be embedded into every item in the store, so that the store is a virtual blanket of RFID data connected to a central data repository in the back end that provides analytics. A retailer can know at any given moment where every item is in the store, giving the ability to see whether toothbrushes in aisle three are running low and need restocking, or whether an expensive purse is being taken out of the store without payment.

## Creating Sales and Efficiency with RFID

If a customer enters a store and wants to ask an employee about an item, but all employees are busy, the customer may get frustrated and leave – or worse, make the purchase from a competitor or an online-only retailer.

RFID tags on inventory coupled with digital display technology can give a customer instantaneous service no matter how busy a store is, helping to eliminate the brick-and-mortar retailer fear, known as "showrooming," that a customer is in a store only to browse before buying online. The key is to build the experiences that keep the consumer in the stores and willing to spend their money within those four walls.

If all associates are busy, the customer can launch information about a product using a touchscreen display. RFID tags on items link to an inventory database and the display shows the customer that her item is in stock, and she can buy it right then and there. The customer is able to use technology to learn about the product and make purchases – not through a computer or phone screen, but right in the store.

## Integration and Interactivity

Digital signage these days is about more than just showing an image on a screen. Now, brands are able to take what is important to an individual or group and put it in front of them in a way that is more relevant to the viewer, using technology.

All of these technologies integrate with each other as well as existing technologies like POS systems, mobile phones, Wi-Fi, and digital signage to create a retail force to be reckoned with – marketing platforms that use biometrics, analytics, targeted advertising displays, triggers, and sensors to drive sales through highly interactive stores. These tools should be considered another component of a brand's omni-channel strategy, combining multiple technologies and forms of marketing to appropriately target demographics and engage audiences.

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