

Why Marrying Digital Signage With Location Analytics Is A Winner

By Ifti Ifhar, CEO - ComQi

Digital signage is transitioning quickly from a nice-to-have to a must-have for bricks-and-mortar retailers, with an astonishing 40%-plus of retailers already using the technology in their stores.

The massive infusion of analytics into the retail sector (and every other area of our lives) is aggressively redefining the value proposition for retail technologies, and rewriting strategy for leading retailers everywhere. As a result, retail marketers should no longer be happy with in-store digital signage solutions that simply run content playlists. A digital signage CMS must be part of a digital ecosystem that is highly integrated, intelligent, and intuitive – taking advantage of that data to make bottom line impacts.

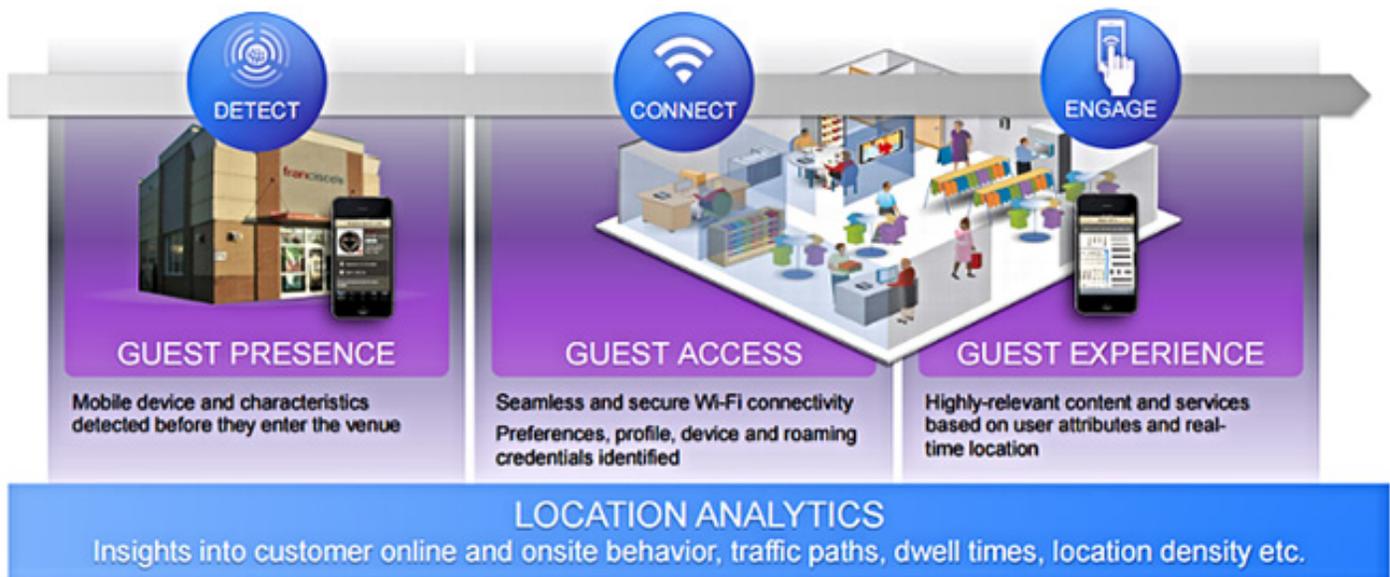
Intelligent integration provides contextual content delivered at the right moment and ideal spot in the consumer's shopping experience. It makes

it possible to deliver intuitive, connected brand experiences that can only be found in-store. These experiences will often leverage (and depend on) various digital touchpoints, including both in-store displays and consumer's personal devices.

At a high level, intelligent digital signage platforms integrated with location-based retail analytics solutions enable strategies that:

- Collect anonymized customer data in real time without infringing on privacy;
- Recognize and “interact with” consumer mobile devices and behaviors (for the technologies that involve them);
- Marry it to structured and unstructured big data available through other sources;
- Analyze the data and generate key business intelligence on customer behavior;
- Optimize operations, selling strategies and marketing activities based on these insights.

Integrating Location Analytics & Intelligent Digital Signage



[Image Source](#)



Image Source: 2018 ComQi (World Duty Free, DTW)

Not all in-store analytics sensor technologies offer the full spectrum of benefits. In general, the baseline to success is integrating a robust Content Management System (CMS) such as ComQi EnGage, with a retail analytics platform.

Done right, the result can have a huge impact on in-store sales, which still account for 91% of total retail sales – a whopping \$138B USD (as reported by the U.S. Census Bureau in Q4, 2017).

Making Sense Of Location Analytics Sensor Technologies

The quality of “intelligence” and the decisions derived out of it is as good as the quality of the data captured. Therefore, location analytics plays a major role.

Retailers have a dizzying range of sensor technology options available to them. One of the ways to categorize those options is in terms of passive or permissive sensing.

Passive sensing describes all those technologies that measure activities within a retail environment in an anonymous manner (they don’t gather and keep consumer’s personal info).

Permissive sensing relies on the consumer opting-in – effectively agreeing to provide personally-attributable data, such as their profile.

Permissive or passive sensing, when analyzed properly, can provide predictive insights with a wealth of intelligence to serve as decision-making support for brands and retailers.

Here are some of the more common Location Analytics Sensor Technologies that today’s retailers can leverage to provide Business Intelligence and inform in-store strategy. With each, I’ve indicated whether the technology is more suited to capturing insights on the consumer’s in-store path, or more appropriate for capturing specific touchpoint interactions within the retail environment.

At a high level, location analytics can:

Provide visitor headcounts and dwell times per location;

- Track visitor flow in the store/park/mall ;
- Capture age, gender, expression, and consumer mobile devices;
- Detect repeat customer visits ;
- Better pricing decisions;
- Personalized messages;
- Improved inventory management and operational efficiencies;
- Optimize sales resources ;
- Integrate the on-line profile of the shopper with his/her physical presence.

It’s important to consider that while most sensing technologies claim to be able to detect the “exact location” of the shopper, accuracy can vary greatly. It boils down to the specific capabilities of the sensor technology, the design and rollout of the in-venue infrastructure, and the strength of the individual location analytics applications and the algorithms.

Video (Image) Analytics/ Face Recognition – Specific Touchpoint



[Image Source](#)

This is camera-based technology, in which cameras are often installed at or near digital signage displays, window displays or ceilings. This technology evolved from video surveillance and has been gaining adoption within the retail industry in recent years. It is currently the only type that provides a high degree of assurance as to whether shoppers viewed displayed merchandise, content or promotional offers on an in-store digital signage display, end-cap merchandiser, or window display. The technology can capture consumer age range, gender, expressions (like, dislike, surprise...),

visual attention times and ethnicity (though, in many countries, monitoring ethnicity is illegal). It can also count such things as store front traffic, dwell time at windows, store entries, usage of fitting rooms, in-store traffic and dwell time at all points. Some technologies can also provide information on which merchandise/brand were touched by shoppers and how many times. All this information can be used by retailers to improve window efficiency, product display efficiencies and optimize operational functionalities for single or multiple stores as reports can provide comparison and benchmarking among different stores. The impact of all the above is even higher when compared and analyzed in conjunction with actual product sales through integration with POS systems.

Mobile Location Analytics Technologies – Consumer Path



[Image Source](#)

Mobile device penetration in the U.S. has reached a point that almost everyone over the age of 12 has a device with embedded Wi-Fi and Bluetooth capabilities. The technology can provide location and detect a returning shopper. If either mode is “On” (even if the consumer didn’t opt-in to a specific retailer

or mall network), a multi-digit string of letters and numbers that serves as the device’s unique anonymous ID is detected by the retailer’s sensors. If the device owner has opted into the retailer’s network, the retailer can obtain improved intelligence depending on their technology infrastructure. Shoppers that have either mode “Off” are not detected. If you want to learn more about mobile devices identifiers including UDID, AAID, GAID, UDID, IDFV, IDFA and the long list of other acronyms, I recommend you read: <https://www.aerserv.com/blog/mobile-device-identifiers/>

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Beacon-Based Analytics Solutions – Consumer Path

Typically relying on Bluetooth Low Energy (BLE) radio waves; signals are transmitted from the beacon device (powered by battery cells or a

connected power source) and carry information such as the Unique Device Identifier (UDID) number and signal strength.

These signals can trigger a retailer's branded mobile application to come alive if it has previously been installed by the user, or can trigger a prompt on the user's device to download the mobile app.

These solutions can calculate user's distance from the beacon within the retail environment and can also track the number of devices detected. Also in this category: NFC

Zigbee – Consumer Path

An open, global technology standard designed for retailers that connects devices within store environments to enhance shopper experience and retail operations efficiency. This technology enables faster checkouts, in-store support, product location and more. It can support Personal Shopping Assistant Apps, Intelligent Shopping

Carts, Digital Signage, Electronic Shelf Labeling and Item Tracking Tags. Zigbee enables data analytics such as modeling consumer movement by tracking intelligent shopping carts to identify high and low traffic areas and optimize in-store marketing and product placement.

Other People Counter Solutions – Consumer Path

These types of solutions range greatly in type and description, from thermal sensors to stereo- and mono-camera technologies. They can be very accurate in capturing shopper location and movement, even in crowded environments. Collecting entry/exit in real-time, and providing

data analytics on customer volume and flow, stereo people counters, for example, are very reliable and use a similar approach to human eyesight in understanding variations in shoppers, such as adult vs. child. Dwell times and thorough consumer in-store journey tracking are other benefits.

Analytics and Digital Signage



[Image Source](#)

The data collected through these various analytical sensors and technologies can provide retailers with some very powerful insights. Having your digital signage solution integrate with sensors via its media players, to deliver contextual content through digital displays and more, is a simple and effective way to realize a number of the benefits identified above.

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players can easily ingrate with the majority of the sensing technologies mentioned. In addition to driving digital signage content, having these sensors connected to a cloud-based CMS like EnGage allows users to measure the effectiveness of the signage over a period of time.

Engaging, informing and influencing shoppers at the “Point of Touch” is the life-blood for in-store retail. Doing so with contextual content, delivered at precisely the right moment, in exactly the right place, through the ideal display format, is what will define highly successful retailers today and for the foreseeable future.

About ComQi

ComQi, a wholly owned subsidiary of AU Optronics, is a global leader providing a cloud-based Digital Signage & Shopper Engagement Technology that influences customers in-store through digital touch-points like in-store media, mobile, touchscreens, IoT & social media. Through ComQi's EnGage CMS, ComQi enhances the shopper journey thus helping our clients drive traffic, increase sales & encourage brand loyalty.

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