



# THE SMART STORE: HOW DIGITAL TECHNOLOGY IS REDEFINING THE BRICK AND MORTAR EXPERIENCE

By John "JJ" Kallergis

The "digital retail experience" as typically defined involves targeting shoppers with individually tailored product offers and special promotions, delivered via a mobile device. Insight into customer preferences is gleaned from analyses of data gathered from sources such as purchasing history and online activity. While actual purchases are often made within the store, under the existing model the physical space of the retail establishment is largely limited to being the staging area for delivering the product and the experience. Increasingly, innovative retailers are exploring the potential of store space to be a key component of the digital strategy, in terms of both creating a unique experience as well as providing an intelligent platform for ongoing data collection, analysis and insight into customer behavior. Leveraging the full potential of retail space, however, requires a fundamentally new mindset and a clean break from traditional business models.

## “Traditional” Approaches to Digital Retail

The concept of the digital retail experience is based on two key pillars – the ability to craft uniquely tailored offers of products and services, along with the ability to deliver those offers at the right time and in the right format. By providing shoppers with exactly what they want, precisely when they want it, retailers gain an opportunity to build brand identity and loyalty and forge a lasting relationship with their customers.

The first pillar requires insight into customer tastes, preferences and desires at both a macro and micro level, which in turn requires collection and analysis of a wide range of data. Traditionally, retailers have relied on tools ranging from focus groups and surveys (macro level) to analyses of online activity and past purchases (micro level).

To execute the second pillar of the digital strategy – delivering the special offer in a timely, convenient and accessible manner – retailers have relied on the mobile device and leveraged its increasingly ubiquitous role in the daily lives of consumers.

## Retail Space Plays a Supporting Role

The physical space of the retail store has typically played a supporting role in the digital retail dynamic. At a basic level, store displays are placed to align to purchasing patterns of target demographics – a pharmacy chain’s prime spot display in a college town, for example, will vary significantly from the display of a store in a retirement community. Beacons, while overhyped a bit in the early years, are helping many retailers deliver on a stronger omnichannel experience – particularly when paired with complementary technologies such as RFID or geo-fencing. And more recently, Facebook’s retail beacon offering allows retailers to enhance the shopping experience by tapping into the social media network and leveraging user-generated content that speaks to the digitally empowered customer.

While store displays, beacons and other innovations can support a digital strategy aimed at customer engagement and enhance the effectiveness of the retail space, such measures barely scratch the surface of possibilities of what can be accomplished through the digital store model.

## Attributes of the Digital Store

The digital store model leverages a wide range of Internet of Things (IoT) devices, digital technologies and intelligent capabilities that include computer vision, motion sensors, natural language processing, pattern recognition, data analytics and machine learning. When effectively integrated across a robust operational platform, these technologies provide the ability to automatically track in-store activity on an ongoing basis, combined with the ability to automatically gather and analyze data on that activity.

The result: access to motherlodes of previously untapped data points and sources of insight into customer behavior, at both a macro and micro level.

Smart cameras and sensors, for example, can be deployed to continually track volumes and patterns of foot traffic within stores. At an operational level, such data can alert associates of imminent back-ups at check-out counters and trigger the opening of additional registers. Moreover, such tools can gauge the time shoppers spend at various displays and product counters. Cognitive tools that monitor facial expressions and apply sentiment analysis can assess emotional responses to displays and to interactions with associates – were the customers intrigued? Amused? Skeptical? The tools can also focus on store associate behavior – what proportion of time do associates spend with customers? How long are the interactions?

All of these data points and variables can be tracked against sales to understand the effectiveness of existing practices and to identify potential paths towards improvement.

## Slicing and Dicing

At a micro level, patterns of an individual's behavior can be similarly tracked, and then aggregated and analyzed for a broader perspective. Let's say a shopper walks into a DIY store and spends 27 minutes in the power tools aisle, talks with an associate for five minutes, and makes a \$175 purchase. A smart store system could then run queries on all three data points – "all shoppers who spend between 25 and 30 minutes in the store," "all shoppers who spend between 5 and 10 minutes with an associate" and "all shoppers who spend between \$150 and \$200." And rather than poring over spreadsheet results in search of cause/effect linkages between different variables, retail managers can apply pattern recognition software to discern high-level correlations between different factors and sales.

Big picture views as well as granular insights can similarly be applied to analyze store efficiency and effectiveness by tracking, for example, sales conversion rates within individual departments and by analyzing associate interaction with customers at both a collective and individual level.

## Adjusting Store Settings

Smart store technology also enables retailers to reimagine the possibilities of how physical space can be strategically used to create an environment conducive to sales. Variables to consider include lighting, temperature and music, and how such variables can be aligned and adjusted to store demographics – techno-pop for a younger crowd, say, and classical for older shoppers. During the holiday season, retailers can fine-tune store ambience to account for crowds, weather and – by scanning for sentiment analysis – stress levels of shoppers. Even days of the week can be test labs for innovation – high-energy music and lighting might be just right for a Friday evening in May, while a dreary Sunday afternoon in February might call for a more low-key approach.

Perhaps most importantly, all of these scenarios and variables are the stuff of data scientists' dreams, as they can be subjected to continual monitoring, cross-referencing and A/B testing, delivering critical and increasingly more accurate, nuanced and actionable insight into customer behavior and its impact on the bottom line.

## Getting There – Integration and Flexibility

Innovative retailers are already pursuing smart store initiatives. Grocery chain [Kroger](#), for example, has implemented an interconnected IT system that includes video cameras – each of which executives tout as standalone "supercomputer" – equipped with sentiment analysis tools that the store plans to use to proactively intercede when customers are unhappy. Digital tags on shelves streamline inventory management as well as conspicuously promote products and highlight key ingredients and special promotions.

From a technology standpoint, implementing a smart store environment requires a sound operational core and intelligent platform that enables integration of multiple tools. While the constituent parts of a smart store solution – such as IoT devices and cognitive and analytical tools – are viable technologies, tying them together seamlessly presents a challenge. Moreover, ensuring that legacy systems integrate with new applications and tools is essential. And this is where retail digital transformation strategies often fall short – what happens is that new digital applications and data sets are implemented on top of existing legacy platforms, and the two worlds end up co-existing as discrete entities. This prevents the granular data sharing and communication essential to the smart store model and significantly limits benefits.



A DevOps delivery model can address a retailer's digital integration challenges by facilitating speed to market, flexibility and ongoing communication between the development teams and business owners. Absent this continual loop of adjustments and improvements, a smart store initiative can quickly become misaligned with business goals. Given the multitude of moving parts involved in this type of initiative and the complexity of many retailers' organization charts, maintaining this alignment is imperative to catering to the end customer.

## Getting There – Integration and Flexibility

While the technology challenges to achieving a smart store model are important, perhaps a bigger obstacle is an attitudinal one. At a high level, "old school" thinking characterized by resistance to change, skepticism towards data and reliance on gut instinct still permeates many retail organizations. Given this mindset, why invest in an initiative that yields volumes of quantitative data? More specifically, retailers continue to cling to traditional metrics on store performance, such as sales per square foot. If a smart store business case doesn't fit into the box of preconceived notions, its value isn't recognized.

Relatedly, many traditional retailers increasingly view real estate as a burden to be minimized, and are launching initiatives to reduce square footage and reduce spending. As such, the idea of investing resources in revitalizing retail space strikes some as investing in a lost cause.

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For retailers struggling to compete in an increasingly difficult environment, the smart store represents a model that should be seriously considered. Taking full advantage of available technology requires a fundamental change in outlook and a new approach to solving business problems – specifically the problem of retail space. While the smart store won't reverse the long-term trend towards declining in-store sales, simply ignoring or abandoning the store as a business asset isn't a viable option.

## About the Author



### John Kallergis

John "JJ" Kallergis partners with retail executives to transform IT operations and deliver greater value to the business. He focuses on improving operational effectiveness and ensuring that technology organizations are aligned with business strategies and contributing to an enhanced customer experience.