



 Meraki

# IoT's Role in Retail Digital Transformation

Author **Greg Buzek**, President of IHL Services  
Sponsored by Cisco Systems Inc.

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This is the second white paper in a series of three. Our first paper talked about why the updated and optimized network architecture is critical to providing an enhanced customer experience in this new age of retail. This is given that competition is fierce and consumers that used to have to shop must now want to shop at your stores. Here, we will discuss how the role of the Internet of Things (IoT) takes the digital transformation discussion one step further.

IoT has to do with the ability to connect any device to the Internet, and by extension, to any other device. This includes top-level systems (escalators, employee communications, refrigerators, HVAC systems, wearable devices, etc.) as well as sub-systems and components (produce sprinklers, regional A/C units in stores, lighting in front of store vs back of store, etc.). Estimates for the number of connected devices/systems range from 26 billion (Gartner) to 50 billion (Software.org/BSA) and may be even up to 200 billion (IDC/UN/Intel) by 2020. IoT is a giant network of connected “things”; including people and new evolving relationships between people-people, people-things, and things-things.

IoT’s impact on retail remains in its infancy but the opportunity that lies ahead is astounding. Estimates on impact to the worldwide retail market are as high as \$2.8 Trillion in digital value through revenue growth, cost reductions and process optimizations. To help bound the potential, let’s look at 6 different areas or buckets of opportunity.



**Opportunities include the following:**

- ✓ Supply Chain and Logistics
- ✓ Innovation and Insights
- ✓ Customer Experience
- ✓ Employee Productivity
- ✓ Asset Utilization
- ✓ Sustainability

Each have specific use cases that bring the categories to life.

## SUPPLY CHAIN AND LOGISTICS

The use cases in supply chain and logistics range from a connected supply chain to provide visibility on product availability, assortment optimization, to out-of-stock reduction.

Perhaps the single biggest problem for retailers today is having the right merchandise in stock at the right time.

According to IHL's research study "Out of Stock, Out of Luck" retailers lose \$1.6 trillion dollars due to out-of-stocks and total cost of overstocks.

One area showing the greatest immediate impact for IoT is right sizing inventory with tools such as RFID and computer vision.

Retailers often do physical inventory 2-3 times a year and that inventory can be off as much as 25% due to shrink.

# 294%

Higher sales growth expectations for  
retailers leveraging RFID technologies  
in 2018 at the store level

The end result is merchants are making buying decisions based on bad data. With RFID and video recognition, accuracy for inventory data can be improved up to 52 times, allowing brands to capture lost sales and maximize returns. In fact, the sales growth expectations for those retailers deploying RFID are nearly 3x that of average retailers in their segment.



## INNOVATION AND INSIGHTS

One of the major areas of opportunity for IoT is around customer driven innovation and employee driven insights. Leveraging data from wayfinding, traffic counting, location-based analytics, dwell time and purchases as well as data from digitized interactions with the consumer (either with using their own device or in-store digital touchpoints such as signage and kiosks) gives consumers the chance to opt in to providing data for their own benefit.

Additionally, the same data can be used to understand what the employees are doing in the store and empower the employees to be more effective. For example, data about store traffic and shopper's foot traffic can improve staffing allocation while giving insight to a more efficient store layout.

Automated notices of low inventory or even long dwell times of a shopper can allow employees to become more helpful and improve the overall retail experience.



## CUSTOMER EXPERIENCE

Closely related to the opportunities in innovation and insights, IoT also has great potential to enhance the customer experience.

IoT can add tremendous value in streamlining the checkout experience in terms of optimizing lines, supporting self- service initiatives related to straight self- checkout or even checkout on the consumer's handheld device, and even with regards to payments through NFC and mobile technologies.

IoT's significance to customer experience is also materialized in the combination of wayfinding and the "You are here" interactive map, which uses sensors to help the consumer navigate through the store to find the items on their shopping list. Then once at the item's location, the ability to have interactive signage, allowing the shopper to search customer reviews in real time or receive information on food interactions with allergies provides a more informative retail experience. All this becomes possible with the digitally enabled store. We're also seeing increased usage of video technology for consumers to interact with brand experts anywhere, whether it's inside of the store or at home.

IoT enablement also provides the ability to add devices such as smart lockers for Click and Collect, Buy Online Pickup in Stores (BOPIS), or returns for online purchases to support ecommerce initiatives. As well as curbside pickup, improving the pharmacy drive-through experience via presence detection, and self-service.

Finally, there is the opportunity to make shopper marketing tactics more relevant and improve sales conversions by using beacons to identify when the shopper is near a certain category or item. More effective and personalized offers can significantly add to basket size, particularly for impulse items that are promotion sensitive.



## EMPLOYEE PRODUCTIVITY

One of the areas where IoT can have the most significant impact on retail profitability is in tools that enhance employee productivity. This includes everything from VOIP to analytics and optimized task and workforce management initiatives. Workforce productivity solutions largely include mobile devices for employees with specific applications for product or inventory knowledge, save the sale, and training on-the-go and communication with product experts to dramatically improve profitability. In fact, IHL research shows that retailers who have mobile devices for their managers and employees have had higher average sales growth percentages by 500% than those in their segments that did not.

# 5x higher

Sales growth percentages for retailers with mobile devices for managers and employees

Further, leading retailers (who are experiencing sales growth greater than 5%) that have prioritized adding better tools for employees as one of their top 3 initiatives are expecting sales growth percentages that are 71% higher than their competitors.

IoT can also help employees improve both productivity and job safety. For instance, automated biometric readings for heavy machinery operators in warehouses lessens the impact on employees from repetitive or heavy lifting jobs. But most importantly, digital tools transform employees into competitive advantages because the technology enables them to improve service, drive sales, build customer relationships and revolutionize the way that shopping is done.



## ASSET UTILIZATION

When it comes to IoT in the area of asset utilization, the key areas are physical and cybersecurity and particularly, better utilization of the physical and technical assets.

We will be talking about security in the 3rd part of this series but IoT can aid or pose a threat if not secured properly with cybersecurity, loss prevention technologies, and physical security.

Additionally, these same resources for security can also be multipurposed for other tasks. IP enabled cameras, for instance, can be used for loss prevention or physical security. Those same devices can also be repurposed for operational activities such as inventory control, marketing and space planning compliance, traffic counting or behavioral analytics. From the same device, many different services may be provided.

Improving asset utilization can add \$300 billion in digital value to the retail industry through better security and multi-purpose use of products that are enabled with IoT.



## SUSTAINABILITY

Sustainability is one retail segment that is often seen as having the greatest IoT advancements. Specifically, energy management with smart grid technologies enabling and monitoring power, lighting, refrigeration and cooking systems.

Further, IoT has advanced the efficiencies of other infrastructure devices like escalators, with intelligence and communication abilities to optimize energy consumption.

For example on a sunny day, a smart lighting system can automatically turn itself down because it senses the increase in ambient lighting. An escalator can be programmed to power on and off at certain times depending on store hours or known traffic patterns and intelligent and connected sprinkler systems in the garden center can automatically shut themselves off in the morning because they sense the moisture from the rain the night before. The resource conservation and cost containment for operating budgets can be significant to the bottom line.



## CONCLUDING THOUGHTS

The opportunity for IoT in retail is astounding and truly offers trillions of dollars in digital value to companies that take advantage. But that value won't come from investing in devices alone; the foundational digital network must come first, enabling the devices to integrate, create and pass data to the rest of the network. Retailers must first build intelligent and optimized networks to handle the necessary traffic and tie it together with security built-in from the ground up.

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