Why Cellular Access is Critical for Retailers:

Supporting Revenue Goals by Meeting Customer Expectations

Modern retailers are challenged by the technology-driven shift in the way consumers view shopping. Changes in consumer shopping behaviors, which are reflective of broader changes in social norms, structures, and attitudes, are forcing retailers to rethink their position on facilitating in-store technology access for consumers. Shoppers no longer need, and often don't want, employees to help them inside a store – they prefer to use their smartphone to solve problems and get information on their own.

A new category of in-building wireless coverage systems are going beyond just providing signal to helping gather and connect vital information systems. These systems are enabling retailers to transform the in-store experience and yielding new insights into customer behavior. These insights, combined with the benefits of giving shoppers the in-store experience they want, offer concrete, measurable support for revenue goals.

Changing Behaviors

In a recent study of changing customer behaviors, consumers "Agreed / Strongly Agreed" that:

73% AGREED
How consumers shop in stores has changed over the last three years

38% AGREED
Customers want to get in and out of stores quickly

69% AGREED
Shoppers like to browse stores

87% STRONGLY AGREED
Customers want the same access to product information in stores as online

87% AGREED
Customers want stores to be more fun and easy to navigate

Source: Rsrresearch Why The Retail Store Won't Survive As A 'Tech-Free Zone' - Retail Systems Research RSR Consumer Study, November 2023 (n=1132)

Technology and Connectivity to Drive Improved Customer Experience

The smartphone is central to the technological transformation of the customer experience– it is the device of choice for shoppers, and therefore is key to in-store satisfaction. The smartphone is what consumers use to engage with other in-store technology (e.g. apps, retail media networks) and makes those systems more effective in terms of delivering expected ROI. And, simply put, smartphones don't work when they are not connected.

Connecting Shoppers: Wi-Fi vs. Cellular Technology

In practice, only ~15% of shoppers will follow through the steps to connect to in-store Wi-Fi – no matter how good it is or how easy it is to access. So why do retailers rely heavily on Wi-Fi and even promote in-store Wi-Fi as the **solution for connecting customers**? One answer is that retailers are comfortable with Wi-Fi – it's easy to deploy and most think that if they allow consumers to access the in-store network that is already in place to manage store operations, customers will be satisfied. The reality is that Wi-Fi alone often isn't robust enough to support shoppers' needs and expectations. A full wireless strategy, starting with Wi-Fi but also including public cellular, private cellular, and an IoT sensor network, is needed to meet the connectivity demands of consumers and the systems and apps they routinely interact with while shopping.

85% OF SHOPPERS

Will **NOT** follow through the steps to connect to in-store Wi-Fi

Consumers are used to their phones being always on and always connected. This is because Mobile Network Operators (MNOs) have invested hundreds of billions of dollars in building robust networks to deliver seamless connectivity for cellular devices. Unfortunately, both modern and old buildings prevent the signals from reaching people inside. The solution for retailers is to install an in-building cellular Distributed Antenna System (DAS) that brings the macro cellular network signals inside. This allows for continuity of experience for shoppers as they move from the parking lot to the store and then around different areas within the store. With the vast majority of shoppers expecting to be be able to use their phone to get product information, use loyalty and payment apps, or make a call inside a store, retailers are discovering the value of a connected shopper. Data supports the fact that in-store shoppers able to use their devices have a positive impact on the bottom line. Taking steps to ensure reliable cellular connectivity throughout a store can and will add to a retailer's revenue.

In analyzing the contribution of improved customer experience to revenue, there are multiple places we can observe and measure the impact. In this report, we will focus on the financial impact of investing in reliable cellular connectivity to:

- Improve Customer Experience
- Improve Inventory Management (to avoid stockouts and maintain proper SKU mix)
- Improve Dwell Time
- Improve Discretionary Spending
- Reduce Churn

Customer Experience Challenges and Pain Points

Wi-Fi Usage:

- Fewer customers using public in-store WiFi
- Unreliable, underperforming, and insecure public WiFi

Transactions:

- Slow or failed transactions – POS systems lagging or failing can lead to abandoned purchases
- Unreliable, inconsistent, and non-existent digital payment authentication and processing
- Limited online ordering, click-and-collect, mobile ordering, or self-checkout services

Engagement / Meeting Customer Expectations:

- Customers cannot effectively browse or use loyalty apps, affecting engagement and purchases
- Unreliable in-store web/app access – Slow page loads, failed checkouts, or stock inaccuracies
- Poor integration of in-store and online sales – C&C, returns, and promotions are inconsistent

Competition:

- Loss of customers to better-connected retailers – Shoppers prefer fast, seamless experiences and consistent omnichannel marketing
- Inability to leverage data analytics – Real-time insights into sales trends and customer behavior
- Slower adoption of new retail tech – Smart checkout, AI-driven personalization, and IoT-based tracking become difficult to implement

Justifying an Investment in Cellular Coverage: Customer Experience

For the purpose of demonstrating a strong ROI, we have used general data provided by customers and industry bodies, along with available survey data. Additionally, we use reasonable averages and assumptions for attributes such as store size, revenue per store, cost, and efficiency to create our example grocery retailer, 'Standard Store.' Here are the particulars of our "Standard Store":

- Example based on a grocery store
- Store size – c. 100,000sft (9,290sm)
- Revenue per store c. US$50m
- In-store free Wi-Fi connect rates (customer data)
- All other data from industry reports

From our analysis, using the Standard Store as noted, we can see the potential for a ~13% uplift that can be attributed to the impact of connectivity on the consumer experience and its cascading benefits to the business. Read on to understand the sources of and means for achieving this ROI.

Expected Revenue Increase Attributed to Improving Cellular Coverage

Driver: Improved Shopping Experience

Note: OC = Omnichannel

Number of checkout transactions per day[2]	1,800
Average transaction value	$76.78
Pre-Cellular Potential	**$2072.06**
% app. No. ***effectively*** connected shoppers	10%
Max est. potential OC transactions pre-cellular	270
% in-store OC 15-30 (browsing, loyalty apps, etc.)	15%
Current OC increased spend	$2,073.06
Post-Cellular Potential	**$9,328.77**
% shoppers connected post-cellular	100%
Max potential OC transactions post-cellular	1,800
Est. customers using OC shopping	45%
Averaged OC transactions post-cellular	$76.78
Averaged new OC spend/day/store post-cellular	**$9328.77**
Potential spend increase/day/store	**$7,255.71**

Driver: Improved Inventory Management and Product Availability

Number of checkout transactions per day[2]	1,800
Average transaction value	$76.78
Total daily revenue	**$138,204.00**
% rev. increase due to fewer stock-outs 1-3	1%
Potential spend increase/day/store	**$1,382.04**

Driver: Increased Dwell Time

Number of checkout transactions per day[2]	1,800
Average transaction value	$76.78
Total daily revenue	**$138,204.00**
% increase in dwell time	1%
% of shoppers increasing their dwell time	10%
% increase in overall spend	0.1%
Increase in spend per store	**$138.20**

Driver: Increased Discretionary Spend

Note: this assumes phone calls can be made

% increased ave. spend 5-20 (ass. 2% for this exercise)	2%
% estimated as making calls while shopping	20%
$ increase on average spend/day/store	**$552.82**

Driver: Reduced Churn / Loss to Connected Competitors

Note: High-value OC customers are those most likely to be lost

Number of checkout transactions per day[2]	1,800
Average transaction value	$76.78
Total daily revenue	**$138,204.00**
% industry est. churned revenue 5-15	5%
Potential for recovery of churned revenue	**$6,910.20**

Total Estimated Annual Increase, All Drivers

Note: Based on 6 days/week for 52 weeks, less 6 public holidays

Single day	**$16,238.97**
Total 306 days	**$4,969,124.82**
Potential increase	**~11.7%**

Table 1 - Revenue Increase per Standard Store

Elevating the Customer Experience with Connectivity

87% OF SHOPPERS
Want the same kind of access to product information in the store as they have online

New Customer Experience

Consumers are demanding that their in-store experience evolve to better fit their lives and habits. According to RSR, 73% of shoppers AGREE or STRONGLY AGREE that the way they shop in stores has changed significantly in the past 3 years. For example, 87% of shoppers AGREE or STRONGLY AGREE that they want the same kind of access to product information while they are in the store as when shopping online. Meanwhile, only 24% of shoppers agree that retailers offer exciting
in-store experiences.

RSR highlights some of the areas where over-performing "winners" in the retail sector outperform their competition to empower customers and create an experience that keeps customers coming back.

30 SECONDS LOST
While the customer waits for the app to load

Speedy, Convenient Checkout

According to a study by the National Retail Federation, shoppers are three times more likely to abandon their purchases when faced with long checkout lines. Many factors contribute to long checkout lines, including delays from shoppers struggling to access their loyalty apps and digital coupons at the POS due to poor wireless connectivity to their phones. Even in stores with free Wi-Fi access, surveys indicate that less than 20% of users will opt to connect to in-store Wi-Fi.

The average time to complete a checkout operation in a grocery store is roughly 73 seconds. If a shopper does not have their loyalty app ready for scanning, or their digital coupons ready, the checkout experience can be slowed significantly. Assume, for example, that the duration of the checkout time is extended by 30 seconds as the customer waits for the app to load or attempts to join the available in-store Wi-Fi on their phone, waits for the phone to connect, and then returns to the app to access a digital coupon or other promotion. Such an event would increase the duration of the checkout operation by 41%. The financial impact of this can be modeled as per Table 2, below, along with other operational efficiency savings.

90% OF US CONSUMERS
Now engage in omnichannel shopping

Improved Shopping Experience

A report by Grocery Doppio found that 90% of U.S. consumers now engage in omnichannel shopping, and that omnichannel shoppers spend 1.5 times more than single channel shoppers, with an average profit margin of 25.6%. Omnichannel shopping requires shoppers to be connected throughout their shopping journey. For example, Aldi and Instacart have partnered in the U.S. to deploy Instacart's Connected Stores technologies. This includes tapping Aldi's In-Store Mode to help shoppers better navigate aisles, find in-store deals, and even check if the item they want is in stock. Another example is the new checkout-free Sam's Club in Grapevine, Texas where customers can use the Sam's club app to scan and pay for items.

All of the applications described above require reliable wireless connections to ensure a positive user experience for consumers. In the absence of a secure and robust connection, revenue opportunities are missed. By implementing enhanced cellular connectivity, revenue opportunities can be maximized, as per the example in Table 1.

1% INCREASE IN DWELL TIME

Drove a 1.3% increase in spend

Increased Dwell Times

A study by Path Intelligence in the UK found that an increase in dwell time of 1% drove an increase in spend of 1.3%. Providing effective, stable, robust and secure seamless connectivity in a retail store is one of a number of measures a retailer can take to ensure shoppers spend time, and money, in their stores rather than their competitors'.

Robust, unencumbered connectivity is most appropriately provided by enhanced cellular coverage, as this approach provides immediate seamless connection for everybody in the store – staff, shopper, contractor, and even emergency services. The potential for increased revenue by increasing a shopper's time spent in store, and the role reliable cellular connectivity plays in dwell time, is shown in Table 1.

10-20% INCREASED SPEND

From distracted shoppers

Discretionary Spend Impact of Enabling Shoppers to Make Phone Calls

A study by the Wharton Business School found that distracted shoppers (i.e. those interacting on phone calls) spend more and make more impulse purchases. This is likely due to factors like real-time decision making when consulting friends or family, reduced purchase anxiety, and increased confidence in buying a premium product. The study suggests that if shoppers can make phone calls from their smartphones while shopping in store, their average spend can increase by as much as 10-20%.

For the purposes of this business case analysis, we are assuming just a 2% increase in spend by 20% of shoppers. The impact on revenue of secure and reliable connectivity can be modeled as per Table 1.

Supporting Retail Media Networks

According to Grocery Doppio, the retail media networks in U.S. grocery stores are valued at $8.5 billion. In fact, 73% of grocery executives look to retail media networks to reshape how grocery retailers engage with consumers and optimize advertising strategies. One of the key requirements to fulfill this vision is access to vast amounts of customer data and in-store traffic for advertising revenue. Loyalty apps, when combined with advanced sensor networks deployed in store, can be used to provide accurate locations of customers as they move around the store to allow for more targeted advertising based on locational proximity.

A DAS with integrated positioning beacons allows for consumer location tracking at low cost, as the capability is integrated with the DAS itself. Furthermore, a DAS that can also support a private 5G network deployment in parallel with consumer cellular signals enables retailers to connect large numbers of screens within the store with dynamic content. The robust and secure wireless connectivity provided by the private 5G network can ensure smooth content delivery to all screens and, in the future, support the installation of more advanced user experiences such as smart mirrors.

The financial impact of such technologies can be significant. If targeted in-store retail advertising results in even a 5% higher spend by users, it is worth the investment. Not having reliable wireless connectivity to facilitate the in-store marketing that supports omnichannel shoppers, for example, makes it impossible to fully leverage this $8.5 billion retail media market.

The Solution: Bringing Cellular Service Into the Store

Nextivity brings reliable cellular signals from all network operators to every part of a building. From convenience stores, fuel stations, and quick-serve restaurants to the largest warehouses and distribution centers, we deliver hassle-free coverage solutions that drive in-store sales, speed transactions, and support operations.

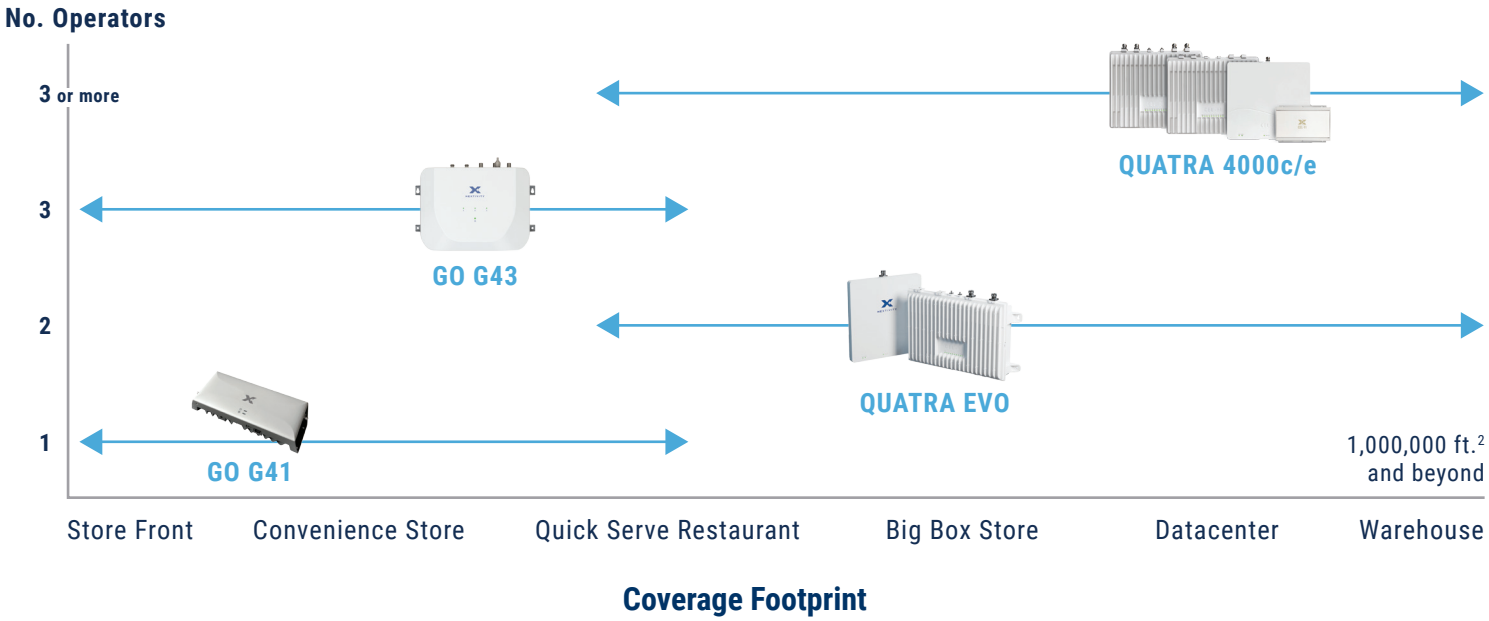
Our CEL-FI GO G43 which covers smaller spaces and can be installed in a day with minimal disruption to your business. All our systems are managed remotely for easy maintenance and optimization - with no drain on internal IT teams.

For larger spaces and retailers looking for scalable coverage solutions that can support private networking and IoT sensor integration, the CEL-FI QUATRA 4000 product line offers maximum flexibility and functionality.

Unique to Nextivity is our ability to execute large-scale projects for geographically diverse entities, including multinationals. Whether you have one location or thousands, our extensive network of expert installers are ready to fix your cellular issues and deliver a network infrastructure that allows you to Do More with DAS.

CEL-FI In-Building Cellular Coverage Portfolio

Solutions for Every Building — All Operators. Any Size



Do More with DAS

Nextivity has patented, pioneering technology built into our solutions that support private 5G and IoT sensor networks. This enables you to justify the investment in coverage by increasing the utility of the system.

You can use a private cellular network to increase data security, run automated systems in warehouses, connect terminals and kiosks, and offload critical transactions to increase reliability.

With an IoT network, you can attach panic buttons to improve worker safety, set up environmental monitoring, increase food safety, and reduce shrinkage from all sources. Our experts will help you integrate sensors into your existing alarm and notification systems for a seamless transition.

Successful Retailers Connect Customers

Nextivity has been providing in-building cellular DAS to enterprise customers since 2010. As smartphone use has exploded, and with the merging of online and offline experiences, modern successful retailers are quickly capitalizing on the opportunities they have to improve customer experience to drive up revenue.

Nextivity has installed tens of thousands of systems in retail locations around the world. We are proud to serve the connectivity needs of our customers. Our systems are improving the in-store shopping experience within:

- Many of the 10 largest retailers in the world
- Two of the largest global apparel/footwear specialty retailers
- Dominant regional supermarket chains across North America, Europe and Oceania
- Global and regional customers in home improvement and electronics
- The showrooms of global luxury and sportscar brands
- Well-known, highly regarded brands in fashion, beauty and high-end furnishings

Our customers include connectivity in their strategic plans and consider it a competitive advantage. We welcome the opportunity to demonstrate how Nextivity can support your growth plans with affordable, hassle-free Intelligent DAS and IoT sensor networks.

Conclusion and Action

In stores where cellular signals are weak, providing enhanced, seamless cellular connectivity for shoppers across all mobile network operators delivers significant improvement in the shopping experience and indicates a significant ROI. There is a clear business case for deploying such systems stemming from measurable increases in dwell time, transaction speed / ease, loyalty app use, and average transaction value.

Please contact us today to arrange a meeting to discuss how Nextivity can help you drive revenue increases, reduce operational costs, reduce spoilage, and improve safety at your stores. Nextivity solutions are unique and our QUATRA platform is the only solution able to provide the integrated connectivity needed to drive such strong ROI.

Note: Data for this report was collected from a variety of online and proprietary sources, including: Path Intelligence, Wharton, RSR, National Retail Federation, Grocery Doppio, Uswitch, and (proprietary) Retail Customer Surveys, as reported by our customers.