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WHITE PAPER

How Enriching Trade Area Analysis With Spatial Data Delivers ROI For Retailers

Location, location, location is a maxim long associated with the real estate industry. But for retailers, a heightened focus on location can be the secret to unlocking new insights to better understand and serve their customers. Beyond site selection, the addition of new data streams and advanced spatial intelligence can now drive better decisions across merchandising, marketing, operations and supply chain.

The power of location data has become even clearer since the pandemic took hold. Rapid shifts in consumer behavior — such as a surge in ecommerce and omnichannel activity, including curbside pickup — have reshaped the dynamics of how customers interact with stores, and these new preferences now must be factored into retailers' catchment area calculations.

Breakthrough research on the strong relationship between store locations and ecommerce sales in their trade areas quantifies the importance of understanding these dynamics. According to the International Council of Shopping Centers' Halo Effect II study:

Every $100 spent at a brick-and-mortar store leads to an additional **$267** in online spend within 15 days

Every $100 online purchase generated an average of **$231** in store spending over the same time period.

Additionally, other surveys reveal that ecommerce activity drops in specific geographies when a brand's brick-and-mortar store closes there.

Because of this new understanding of the importance of location data, 82% of retailers call the ability to combine geographic and demographic data for better business decisions very valuable, according to RSR Research. Smart retailers moving to enact strategies around that thinking are taking a holistic approach to elevating use of location data and spatial analytics across their organizations.

Closing The Location Gap

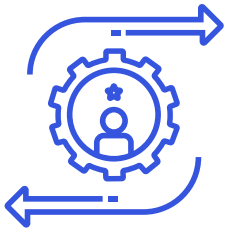
Most of a retailer's data has a location component — an ecommerce order gets shipped to one place and fulfilled from another place; a customer visits a specific store because they pass by on their way to work; customers in a particular city embrace a local trend. But often data about that place is not considered in many day-to-day decisions within the retail organization.

That means the influence of location doesn't get factored in. For example, during the pandemic, stores located in close proximity to a major grocery store or mass merchant tended to see more business than other locations. But if that characteristic isn't considered in choosing which items to stock and in what quantities, or in staffing, the retailer could have understocked or understaffed those stores. Granular geospatial data enables retailers to identify and track these kinds of micro-shifts to inform strategy.

Taking a holistic approach to spatial analysis means making location-informed data usable and accessible across the enterprise. According to BCG, the most common applications of retail intelligence in retail and ecommerce include:

Geomarketing and targeted communications

78%



Digital customer experience enhancement

65%

Network and supply chain optimization

60%

Here is how location data impacts decision-making in a variety of retail use cases:

Adapt to rapidly shifting consumer behaviors

Unlike the sudden changes that marked the early days of the pandemic, consumer behaviors today are highly variable and difficult to predict. Even the same shopper makes different choices at different times: experiential shopping for one visit, a quick in-and-out the next. That makes it challenging to create incremental value for those customers. Blending location characteristics together with a wider range of other data, about everything from purchase habits to weather — and applying spatial analytics to that richer data set — provides retailers with more granular insight into month-by-month changes so they can make decisions that track with each store's unique audiences.

Encourage more multi-channel shopping

Research such as the Halo Effect II study quantifies the higher average order value generated by consumers who shop across channels. Location data and spatial analysis are critical to track the interplay between digital and physical behaviors so retailers can predict and influence consumer activity moving forward. This can also shape things like ensuring easy buy online, return in-store (BORIS) or curbside services in areas with high ecommerce rates, or placing stores in locations where they're most likely to have a net positive effect on omnichannel spending.

Improve targeted local marketing

Retailers have long based marketing on the demographics of a store's catchment area. Spatial analysis takes that concept to a much more granular level. Say a retailer has two stores in close proximity: One attracts primarily Gen Z consumers who are more likely to shop online but also like experiential shopping. The other attracts millennials with young families who stock up on groceries and school supplies. That detailed insight into not just who lives in a catchment area, but their patterns, values and preferences, enables highly targeted marketing to drive each customer to the store that best serves their needs, instead of just the one closest to them. This cannot be achieved without spatial analysis.

Retailers using location intelligence to deliver more personalized and timely promotions increase average cart size by 11% – 15%.

Source: BCG

Optimize staffing

At a time when consumer behaviors continue to be highly variable, staffing for tasks such as curbside pickup, buy online, pick up in-store (BOPIS) and returns is extremely difficult. Retailers can solve this challenge by collecting and analyzing a broad array of data with a location lens so they can make location-specific decisions according to the fluctuating patterns of shoppers at that store. Location data also helps identify draw areas for staff recruitment.

Enrich forecasting

Location data enriches forecasting by creating a fuller picture of consumer trends. A well-designed spatial intelligence tool can better inform site selection decisions through white space and twin area analysis, and also make month-by-month predictions about metrics such as foot traffic and revenue by store based on rich consumer data and other information about that location's specific market.

Enhance supply chain decisions

As channels proliferate and pressure continues to reduce delivery time expectations, the location of inventory is becoming increasingly critical. Location allocation decision making bases recommendations for warehouse, dark store, store hubs and other stocking locations by leveraging a broad array of data, from transportation network access to consumer demand patterns to labor availability.

Retail and ecommerce companies using location intelligence reduce average delivery costs by 3% - 4%.

Source: BCG

Gain a clearer understanding of the competitive landscape

Location data enables retailers to go deeper in analyzing the impact of the presence of competitors. In addition to enabling a more granular analysis, such as understanding market share block by block, retailers can also examine the impact of their competitors. For example, while the presence of a competitor in a popular urban shopping destination such as a UK High Street can have a net positive effect, machine learning can also identify where competitor presence is a detriment. Predictive analytics can help retailers see the projected revenue difference of one location vs. another just two blocks or one highway exit away.

Climbing The Location Data Maturity Ladder

Retailers seeking to achieve better insights from location data are turning to cloud-native location intelligence platforms to begin infusing a geographic perspective into their decision-making. This enables them to move from simply seeing where things are happening to understanding why they are happening. Visualizing their data helps them make better, more spatially aware decisions.

A well-designed native location intelligence platform can be delivered via cloud, on-premises or as a hybrid solution to integrate into the daily work processes of functions across the retail organization. It does this by layering onto the existing tech stack to bring spatial functionality to existing data and applications. A strong platform also enables retailers to take a crawl-walk-run approach to incorporating spatial analysis into their processes. A typical adoption process follows this four-step process:

1. Amass current data

Start with gathering all data about each store location in one place: addresses, square footage, new build or retrofit, product assortments, customer ratings and so on. Getting all of this data in one place can already start revealing new insights into the characteristics of each store. Retailers can often achieve analysis at this level by integrating this additional data into existing business intelligence tools.

2. Add more data

Now it's time to enrich that data with relevant data sets. Start with what the census measures: population, income, gender, ethnicity, employment and so on. Add to that data about how those consumers spend, such as Mastercard's data, alongside human mobility and foot traffic insights: How many people are coming to that specific location? With what frequency? What times and days? Where are their home locations and where are they coming to and from? What are the online and omnichannel behaviors of this customer segment? Other data includes traffic, competitors and geosocial conversations. Understanding spatial relationships at this stage requires adoption of a location intelligence platform.

3. Analyze for specific use cases

Applying spatial analysis to specific, high-value use cases provides retailers the opportunity to build and refine their capabilities and serve as a proof of concept for additional uses. Common first use cases include predicting revenue for a specific location, including white space or greenfield locations, and analysis of twin areas — finding lookalike markets for new locations. Another popular application is determining how a proposed location might cannibalize other locations or online sales. AI and machine learning within the location intelligence platform enables this analysis to go beyond understanding to actually predict impacts.

4. Cater to specific user needs

Location data can enhance functions across the retail enterprise, but only if it's made readily available in ways that suit each user's specific use cases. A marketing pro requires a different view than a CEO or a real estate executive. Tailoring tools and dashboards to those functions enables each one to optimize their own use cases and collaborate more effectively with other departments.

A Location-Aware Future

Analysts expect location intelligence to rapidly become a key element of good decision-making in retail. According to BCG, location intelligence leaders across industries see two times greater impact on customer experience, 1.4X greater impact on the sales funnel and 1.3X greater impact on operational efficiency.

As omnichannel and fast-evolving patterns and preferences continue to complicate retailing strategy, location data is proving to be the key to unlocking new understanding of the "where's" and "why's" of consumer behavior.

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From smartphones to connected cars, location data is changing the way we live and the way we run businesses. Everything happens somewhere, but visualizing data to see where things are isn't the same as understanding why they happen there. CARTO is the world's leading cloud native Location Intelligence platform, enabling organizations to use spatial data and analysis for more efficient delivery routes, better behavioral marketing, strategic store placements, and much more.

Data Scientists, Developers and Analysts use CARTO to optimize business processes, and predict future outcomes through the power of Spatial Data Science.

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