VCIS Platform- Best What ifs: How Location Intelligence Impacts the Retail Industry Analysis?

The retail industry has always been quick to evolve with changing consumer behavior and preferences. And as it continues to evolve, it is becoming crucial that retailers make data-driven decisions to stay ahead of emerging trends and competition. Using retail data analytics is crucial if retailers want to be able to forecast demand, gain a deeper understanding of their consumers and provide personalized consumer experiences.

Navigate your business towards the right direction with accurate geospatial data location-based analytics.

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Overview

Dwell Analysis

Definition: Dwell analysis involves examining the amount of time individuals spend in a particular location or engaging with a specific product or service.

Purpose: It helps businesses understand customer behavior, preferences, and engagement patterns. Longer dwell times might indicate stronger interest or satisfaction.

Trade Area Analysis

Definition: Trade area analysis involves studying the geographic area from which a business draws its customers and the characteristics of that area.

Purpose: This analysis helps businesses define and understand their target market, optimize marketing strategies, and make informed decisions regarding location and expansion.

Competitive Analysis

Definition: Competitive analysis involves assessing the strengths and weaknesses of current and potential competitors.

Purpose: Businesses use competitive analysis to identify market trends, benchmark their performance against competitors, and develop strategies to gain a competitive advantage.

Footfall Analysis

Definition: Footfall analysis is the process of counting and analyzing the number of people entering a physical space, such as a retail store, shopping mall, or event venue.

Purpose: It helps businesses evaluate the effectiveness of marketing campaigns, assess peak hours, optimize staffing, and enhance the overall customer experience.

Supply Chain and Logistics

Definition: Supply chain and logistics refer to the processes involved in the production, distribution, and delivery of goods and services.

Purpose: Efficient supply chain and logistics management are crucial for minimizing costs, improving customer satisfaction, and ensuring timely delivery. It involves coordination between suppliers, manufacturers, distributors, retailers, and customers.

Feasibility Analysis

Definition: Feasibility analysis is a systematic evaluation of the practicality and viability of a project, business idea, or initiative.

Purpose: To assess various factors such as market demand, technical requirements, financial considerations, and operational aspects to determine whether the proposed undertaking is achievable, sustainable, and economically sound. The analysis informs decision-makers about potential challenges, risks, and opportunities, aiding in making informed choices about the initiation or continuation of a project.

Dwell Analysis

For one, it measures customer time in a store/location or engaging with a particular product or service. Longer dwell times increase the likelihood of a sale as customers have more time to browse and consider products.
Also, understanding how dwell time affects retail sales helps business owners make intelligent choices. Their options improve the customer experience and increase revenue. Making wise choices involves analyzing data, recognizing patterns, and changing store operations to drive sales.
Dwell analysis provides insights into customer behavior, preferences, and the effectiveness of certain aspects of a business, such as retail displays or event spaces.

1. **Case Scenario**

Imagine a retail store that sells electronic gadgets and appliances. The store wants to optimize its layout and product placement to increase customer engagement and sales. They decided to conduct a dwell analysis over a one-month period through VALOORES Crowd Intelligence System (VCIS) to enhance its dwell analysis and optimize store layout for improved customer engagement. Using geospatial data, CDR data, CCTV and other data sources, VCIS executes insightful queries and conducts in-depth activity scans within areas of interest to collect real-time data on customer movements and interactions.

2. **Customer Journey Mapping**

- VCIS generates heat maps showcasing "hot spots" where customers dwell the longest. These maps provide visual insights for the store to understand high-traffic areas and customer preferences.
- Customer journey mapping facilitated by geospatial technology allows the store to visualize the entire path customers take within the store, revealing the sequence of visited areas and the time spent in each.

3. **Predictive Analytics for Optimization**

VCIS helps the store forecast potential dwell patterns based on various factors, such as time of day, day of the week, and ongoing promotions. This empowers the store to proactively optimize layouts and promotions for anticipated customer behaviors.

4. **Optimization and Improved Customer Experience**

- Armed with insights from VCIS-generated queries and geospatial analysis, CVS optimizes its store layout. Popular laptops are strategically placed near the entrance, and the smartphone display is enhanced to encourage customer interaction.
- The result is a more engaging and personalized shopping experience, leading to increased customer satisfaction and potentially higher sales for CVS.

In this collaborative approach between the retail store and VCIS, geospatial technology plays a central role in transforming raw data into actionable insights, ultimately shaping a retail environment that caters to the dynamic needs and preferences of its customers.

Trade Area Analysis

Retail trade area analysis is a process businesses use to attempt to envision and understand where their customers are coming from and who they are. This involves understanding how many potential customers exist in an area, what their demographics are, and how much competition there is from other businesses. Additionally, businesses need to understand what hours potential customers are available and what their preferred method of transportation is. In other words, this analysis is used to help businesses locate their customer base, understand what times they are available, and how best to reach them.

1. **Common use cases**

Site Selection: A critical process for many organizations in evaluating what markets to enter or divest from, where to build or close stores, and which new or additional locations to prioritize. Leading organizations utilize foot traffic data in order to:

- Discover areas that residents and visitors already congregate or travel to
- Discover which site characteristics help create a lasting visitor base
- Pinpoint which sites meet your ideal visitor mix
- Identify which areas have gaps in the local marketplace
- Evaluate the foot traffic - performance of a potential site

- Forecast capture rates for new sites

Competitive Intelligence: To uncover new trends about their competitive landscape, leading organizations leverage trade area analysis to build better products and make smarter decisions with real-world data.

- Measure market share and regional dominance over time
- Benchmark locations against competitors' sites or total addressable market
- Understand consumer behavior with competitors' sites
- Learn where, when, and how often customers visit your location vs. your competitors'
- Compare your visitor demographics to your competitors'
- Discover common characteristics of your competitors' locations

Demand Forecasting: To gain a deeper understanding of supply chain, logistics, distribution, and demand forecasting, leading organizations rely on trade area analysis to build better products and make smarter decisions.

- Measure consumer activity at precise locations to optimize supply chain planning
- Explore changes in area demographic profiles that impact sales
- Understand site potential using venue-specific foot traffic as a proxy
- Plan for opening, closing, or growing of sites and market areas
- Enhance site analysis with capture rate, visit duration, customer origin
- Unlock trends for any area using custom-defined locations

2. Case Scenario

Let's consider a scenario where a retail clothing brand, Urban Threads, is planning to open a new store in a metropolitan area.

1. Define Trade Area: UrbanThreads uses geospatial technology to define its trade area. The trade area is determined based on factors such as the proximity of potential customers, transportation infrastructure, and competition from other clothing stores.

2. Demographic Analysis: Utilizing VCIS, UrbanThreads gathers geospatial data for the defined trade area. This includes information on population density, age distribution, income levels, and lifestyle preferences. VCIS tools allow them to create thematic maps that visually represent these demographics.

3. Competitor Analysis: Geospatial technology is employed to map the locations of competitors within the trade area. UrbanThreads analyzes the spatial relationships between its potential store location and existing competitors, helping to identify areas with less competitive saturation.

4. Footfall Analysis: VCIS is used to analyze foot traffic patterns in the vicinity of potential store locations. UrbanThreads assesses high-footfall areas, considering factors like proximity to public transportation, popular landmarks, and other retail hubs.

5. Accessibility Assessment: Geospatial tools help in assessing the accessibility of different locations within the trade area. UrbanThreads considers factors such as parking availability, ease of public transportation access, and the overall convenience for customers.

3. Geospatial Technology Integration

1. Spatial Analytics: UrbanThreads utilizes spatial analysis tools to overlay demographic data, competitor locations, and foot traffic patterns on maps. This aids in identifying correlations and making strategic decisions.

2. Location Intelligence: Location intelligence tools provide insights into customer behavior based on their geographic location. UrbanThreads can understand where potential customers live and work, enabling targeted marketing efforts.

3. Predictive Modeling: Geospatial technology allows UrbanThreads to create predictive models, forecasting potential customer behavior and sales performance based on historical data and spatial trends.

4. Site Selection Optimization: VCIS assists in optimizing site selection by considering various spatial factors simultaneously. UrbanThreads can visualize different scenarios and choose a location that aligns with their business goals.

Through the integration of VCIS geospatial technology in trade area analysis, UrbanThreads gains a comprehensive understanding of the market dynamics, enabling them to make data-driven decisions regarding store location, marketing strategies, and customer engagement. This approach enhances the likelihood of a successful retail expansion.

Footfall Analysis

Footfall data is sometimes called "people counting," and although tracking the total number of people in a given space is a critical part of footfall data, that's only the surface. What makes this data so valuable to business leaders is that it's a holistic way of tracking patterns of behavior based on location, time, demographics, and other metrics.

Often footfall data is integrated with other sources of data, such as demographics or market trends, for more robust insights. It is also widely used to track visits to a site and discover where visitors are coming from (trade area).

1. What is footfall in retail?

Footfall is defined as the number of people, or traffic, entering a store, and is an important indicator of how successful a company's marketing is at bringing customers into stores. Understanding footfall also means you can work out other key metrics such as conversion rate and average transaction value, and can help you determine demand and staffing levels.

2. What is footfall analysis?

In order to increase sales and ultimately profit, it is important to have a way of measuring and analyzing your footfall. At its most basic level, footfall analysis means counting the people who visit the store and where they are moving within the store and in what volume, then analyzing the results. The old-fashioned way was to have an employee stand at the entrance with a customer counter – a manual clicker that they used to keep track of the number of store visitors. In modern times, things such as indoor positioning systems and digital geofences have removed this manual aspect of the process while making the data more reliable. VCIS comes to go beyond these techniques.

3. Questions that footfall data can answer

Retailers and investors want data-based proof to guide their operational decisions. But raw data alone is not actionable. Foot traffic analytics companies like Unacast can give businesses a holistic picture of customer movement by interpreting mobility data-making it meaningful for decision-makers. The data that is most helpful to retailers tends to be:

- The number of consumers visiting your business
- The percentage of people in the area that visit your business, known as the capture rate
- The patterns for when people visit your business (hourly, daily, weekly, monthly)
- The amount of time people spend visiting your business
- Do people come back and stay loyal to your business?
- The demographics of consumers such as age, gender, income group and education level

4. Footfall Analysis Based on Geospatial Technology

Footfall analysis, based on geospatial technology, uses spatial data and analytics to understand and optimize the movement patterns of people within physical spaces. Geospatial tools, such as Geographic Information System (GIS), collect, process, and analyze data on the number of people entering specific areas, their paths, and the duration of their stay.

VCIS leverages multiple data sources to help retailers understand customer movement within stores. Hourly analysis captures the flow of potential customers and identifies buying behavior and trends. This data can be used to assess metrics like the most popular store locations, the least busy areas, and common customer journeys. Retailers can then optimize product placement, promotions, and store layout based on these insights, improving customer experience and sales.

5. The benefits of footfall analysis

- Determine in-store activity
- Assess the impact, performance and success of marketing initiatives
- Tailor staffing schedules according to footfall patterns
- Improve store layout and ease customer navigation
- Optimize store performance
- Maximize sales potential
- Improve peel off rates
- Boost sales productivity and identify conversion rate profiles and patterns
- Improve performance by identifying weaker performing stores and implementing training programs
- Boost ROI by monitoring the success of marketing campaigns
- Gain a deeper insight by reviewing changes in sales volumes and the consequences of fluctuating footfall levels
- Make instant operational changes with real-time traffic data to boost conversion
- Instant access to accurate and reliable data for confident decision-making

Competitive Analysis

Direct competitors market the same product to the same audience as you, while indirect competitors market the same product to a different audience. After identifying your competitors, you can use the information you gather to see where you stand in the market landscape.

Traditional methods of competitive monitoring vary widely. Monitoring news about your competitors, keeping up with financial earnings reports, paying attention to their marketing campaigns and offers, tracking where they have opened and closed locations, and subscribing to industry data sources for insights into industry-level performance and benchmarks are all helpful tactics that rely on publicly available information.

1. **Using Location Analytics to Understand a Competitor's Business**

Location analytics are based on de-identified GPS data from mobile devices. The data can be used to gather intelligence on foot traffic trends and typical consumer profiles of visitors to a selected study area.
Many brands have started using location analytics as a tool for monitoring their own locations or analyzing properties where they are considering opening a new location, but these tools can also be used to better understand the dynamics at a competitor's locations.
For example, location analytics can help you address questions such as the following:

What is the volume trend at my competitors' locations**?**
If your competitor doesn't publicly release traffic and earnings information, this can be a helpful way to understand how their business is likely performing. If your competitor does release this type of information, you can use the analytics to keep up with trends before earnings announcements.

Do my competitors experience the same type of seasonality in visits that I experience**?** You may assume that all competitors experience the same type of seasonal patterns as your business, but is that true? Study the traffic patterns over time and compare them against your own. If a competitor seems to be defying the odds and maintaining traffic levels during traditionally off-peak times, that's a signal that you may need to study their marketing, product offerings, or consumer base in more detail.

Are my competitors attracting the same types of consumers that I want to attract**?** Consumers are attracted to certain brands based on their lifestyles

and the brand's fit with that lifestyle. Which types of consumers are visiting your competitors' locations? Are they the same type of consumers you are trying to reach or a different consumer base entirely?

2. Using Location Data for Competitive Intelligence

Competitive intelligence is the foundation for how companies understand their market, develop their strategy, and grow their business. Yet, many companies are reliant on guesswork to understand the success and share of competitors in a market. We've seen broad uses for location data in competitive intelligence. This data allows companies to:

- Learn where competitors are located
- Understand how many customers go to competitor locations and the trend over time
- Develop an understanding of the type of customer that shops at a competitor
- Analyze trends in market share and return rate

Location data unlocks new ways to approach competitive intelligence questions. It enables precise, objective data to benchmark a brand's performance, understand competitor performance, and be highly targeted in customer acquisition efforts.

It also supports measuring the impact of key marketing campaigns or customer acquisition strategies within a market. When you launch a campaign, do you see a share shift in the market? If yes, where is that shift coming from? Building an understanding of competitive activity in a market drives better strategic decision making. Location data powers these competitive insights by providing views into previously inaccessible information like competitor foot traffic & performance, customer profiles, and market-wide industry trends.

3. Competitive Analysis Based on Geospatial Technology in the Retail World

Competitive analysis in the retail world, when enhanced by geospatial technology, involves leveraging spatial data and analytics to gain a deeper understanding of the geographic context of retail operations. This approach provides retailers with insights into the spatial relationships between their locations, competitor locations, and other relevant factors. Here's how geospatial technology contributes to competitive analysis in retail:

Spatial Mapping

Creating detailed maps that visually represent the geographic distribution of retail stores, including both your own locations and those of competitors.

VCIS tools allow retailers to map and visualize the physical locations of retail outlets, providing a spatial context for analysis.

Proximity Analysis

Measuring the proximity of your retail locations to those of competitors to understand market saturation and identify potential areas for expansion.
VCIS enables proximity analysis by calculating distances between points on the map, helping retailers assess how closely their stores are positioned relative to competitors.

Catchment Area Analysis

Analyzing the geographic areas from which each retail location draws its customers (catchment areas) and comparing these catchment areas with those of competitors.
VCIS tools can define and analyze catchment areas, considering factors like population density, demographics, and travel times.

Demographic Overlays

Overlapping demographic data onto maps to understand the characteristics of the customer population surrounding retail locations.
VCIS allows retailers to integrate demographic information (e.g., income levels, age groups) onto KYC, providing a visual representation of the consumer landscape.

Customer Journey Mapping

Understanding the paths and journeys customers take within the physical retail environment, including interactions with both your stores and those of competitors.
VCIS and location-based analytics assist in creating customer journey maps through Device History Patterns, revealing insights into how customers move through different retail spaces.

Supply Chain and Logistics

Location intelligence provides supply chain professionals insight into consumer movement patterns that can help better predict demand, manage inventory, identify potential bottlenecks and allocate staff.

1. **Predicting consumer demand**

It seems that the holiday shopping season starts earlier each year, as consumers look to capitalize on early deals or spread out their shopping. The 2022 season has already begun, as research shows that more than half of consumers have already started their holiday shopping. By combining historical datasets with recent foot traffic data, retailers can determine any upticks in consumer demand in near real-time and adjust their strategies accordingly. For example, if a big box retailer starts to see a significant increase in traffic at the end of October, they can send more big-ticket items to their stores to keep up with demand and ensure popular items are well-stocked.

2. **Inventory management**

Optimizing inventory placement is crucial for holiday season success for example, with November and December accounting for 19% of annual retail sales. To maximize revenue during this critical period, businesses must ensure proper stocking of popular items and mitigate the risk of shortages. Leveraging location intelligence enhances supply chain visibility, aiding in identifying rising demand areas and optimizing product inventory accordingly. A company can then determine whether they need to reallocate a specific product shipment or cancel an order altogether, so they don't have excess inventory. This will free up space in warehouses and ensure a company is not wasting money by storing goods no one intends to purchase.

Similarly, location intelligence can determine which stores in a network are seeing increases in traffic. Say a retailer's stores in the Northeast are seeing a weekly uptick in people visiting their stores, then that retailer can choose to send more inventory to stores in the Northeast for the short-term and adjust product supply at their warehouses in that area so they can maintain a steady stream of stock on shelves.

3. **Identifying bottlenecks**

When facing pressure to deliver packages on time during the holiday season, supply chain professionals need to be able to identify potential bottlenecks that could cause severe delays. Location intelligence can provide added visibility into every tier of a company's supply chain as it can pinpoint anomalies in foot traffic at warehouses, manufacturing plants, suppliers and other key locations.

By measuring against a baseline level of foot traffic, a retailer can detect irregularities in foot traffic, which would alert them that they need to act quickly to mitigate the issue. For example, a major winter storm closes the roads near a rural warehouse, meaning employees can't get to work to take in new shipments. Seeing this change in foot traffic, a retailer can divert any new deliveries to another nearby warehouse while the roads get cleared. By utilizing location intelligence, companies can get ahead of potential bottlenecks and lessen the impact felt by delays.

4. Getting staffing right

For many companies, seasonal hiring is essential to their success during the holiday shopping season. Location intelligence can help companies determine where they need to allocate more employees or adjust hours. For example, if a retailer is seeing a significant increase in foot traffic at some of its stores, it can hire more staff or shift locations for existing employees to ensure that those stores are properly staffed. Once traffic decreases, staff can adjust hours or return to their original store locations. Location intelligence can help companies determine how to properly manage staffing levels, saving time and money.

5. Key Components & Applications

Route Optimization

Finding the most efficient routes for transporting goods between suppliers, manufacturers, warehouses, and end consumers.

VCIS tools consider factors such as traffic conditions, road closures, and geographic features to optimize delivery routes, reducing transportation costs and delivery times.

Warehouse Management

Optimizing the location and layout of warehouses for efficient storage and distribution.

VCIS helps in site selection for warehouses based on proximity to suppliers, transportation infrastructure, and demand centers. It also aids in warehouse layout design for streamlined operations.

Inventory Management

Efficiently managing inventory levels and distribution to meet demand while minimizing holding costs. Location-based analytics provide insights into demand patterns across different regions, helping in demand forecasting and strategic placement of inventory to reduce stockouts and excess inventory.

Supplier and Vendor Management
Identifying and managing relationships with suppliers and vendors for optimal supply chain performance.
VCIS analyzes the locations of suppliers, helping in supplier selection, risk assessment, and the optimization of the procurement process.

Last-Mile Delivery
Optimizing the final leg of delivery to reach end consumers efficiently.
VCIS assists in last-mile delivery route planning, considering factors like delivery windows, customer locations, and traffic conditions. It improves delivery accuracy and reduces delivery time.

Risk Management
Identifying and mitigating risks in the supply chain, such as natural disasters, geopolitical events, or disruptions in transportation.
VCIS integrates real-time and historical data on potential risks, allowing businesses to assess the impact of events on their supply chain and implement proactive risk management strategies.

Cross-Docking Optimization
Streamlining the cross-docking process to minimize handling and storage times. GIS analyzes the spatial relationships between transportation hubs and final destinations to optimize the cross-docking process, reducing transit times and costs.

6. Benefits

Cost Reduction: Optimizing routes, warehouse locations, and inventory management leads to reduced transportation costs, lower holding costs, and overall cost savings.

Improved Efficiency: Real-time tracking and route optimization enhance the efficiency of supply chain operations, reducing delays and improving delivery performance.

Enhanced Visibility: Location intelligence provides real-time visibility into the entire supply chain, enabling better decision-making and responsiveness to changes in the environment.

Strategic Decision-Making: Analyzing location-based data helps in making informed decisions about network design, supplier selection, and overall supply chain strategy.

In summary, integrating location intelligence into supply chain and logistics operations enhances visibility, efficiency, and strategic decision-making, ultimately contributing to a more resilient and competitive supply chain.

Feasibility Analysis

With VCIS location intelligence, you can save hours of time spent on analyzing large datasets. You can get an instant view of visual-based analytics of locations and demographic data that help you draw insights for various business decisions.

1. **Choose the right optimal location**

Gain business insights from location data to answer spatial questions such as the presence of a competitor, availability of resources and socio-demographic data to enhance your store location and expansion strategies.

2. **Understand the competitive landscape**

Understand the competitive landscape to rethink your approach with the help of an in-depth analysis of negative influencers, positive influencers, reviews, population density, the magnitude of positive and negative influence, etc

3. **Identify new opportunities**

Discover the best of business opportunities based on the insights from competitor's locations within a physical boundary, the probability of a customer walking toward a store, possibilities of new entrants, and more. These real-time datasets of various locations give you deep insights into the competitive landscape, feasibility analysis for expansions, understand customer behavior, execute tactical promotions, and more.

4. **Location-driven targeting**

Add context to your messaging by connecting with customers based on the physical location combined with third-party data like footfall traffic within defined boundaries like malls and airports that give you insights on total visits to your store, closeness to a competitor's store, etc

- Deepen customer understanding
- Enrich user experience
- Personalize campaigns
- Improve app engagement

5. **Detect trends and patterns**

Our location intelligence platform helps you assess and qualify a location for your store establishment with location analytics of businesses in a specified region, neighborhoods of that region,

the performance of existing businesses, business trends across different areas.

A feasibility analysis for expanding into a new area and evaluating store opening or closure opportunities involves a comprehensive assessment of various factors. Below is a guide for conducting such an analysis:

6. **Feasibility Analysis for Expansion**

Market Research: Conduct location analysis (population size, age groups, income levels groups, density,).

- Assess local consumer preferences and trends.
- Evaluate the competitive landscape and identify key competitors.

Location Analysis**:** Identify suitable locations for expansion based on market demand, accessibility, and potential foot traffic.

- Analyze footfall data using geospatial technology.
- Assess the proximity to transportation hubs, residential areas, and competitors.
- Consider zoning regulations and site-specific factors.

Risk Analysis: Identify and assess potential risks associated with the expansion.

- Identify Risk areas and particular zones with specific conditions or regulations.
- Assess operational risks, including supply chain vulnerabilities.
- Consider geopolitical and environmental risks.

7. **Store Opening or Closure Evaluation**

Performance Analysis: Evaluate the performance of existing stores in the area:

- Analyze sales data and footfall.
- Identify stores with consistently good or poor performance.
- Consider the contribution of each store to overall profitability, flag stores as per higher or lower performance.

Customer Feedback and Satisfaction: Understand customer satisfaction and feedback to identify areas for improvement:

- Collect and analyze customer reviews and feedback.
- Conduct surveys or interviews to gather insights.
- Identify common themes and areas for enhancement.

Operational Efficiency: Assess the operational efficiency of each store.

- Evaluate inventory management and supply chain efficiency.

- Assess staffing levels and productivity.
- Identify any operational bottlenecks or inefficiencies.

Closure Plan: Develop a plan for closing stores, if necessary.

- Communicate transparently with affected employees and stakeholders.
- Develop a timeline for closure and clearance of inventory.
- Consider any legal or contractual obligations related to closures.

Reinvestment Opportunities: Identify opportunities for reinvesting resources from closed stores into high-potential areas.

- Allocate resources to expansion in areas with high growth potential.
- Consider remodeling or rebranding strategies for underperforming stores.
- Explore partnerships or collaborations to enhance store performance.