



Application of Big Data in Retail

5 Ways Retailers Can Use Big Data Analytics

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Executive Summary

Retail industry has its own share of data tsunami to grapple with. As in any other field, big data in retail presents both a challenge and opportunity. Applying predictive and prescriptive data analytics in real time, retailers can glean valuable insights from their multifarious data and win customers in an extremely competitive marketplace.

This white paper explores five distinct areas where retailers can apply big data analytics to increase customer engagement and improve bottom line. It traces the transformative opportunities ushered in by big data in retail through a case study and proposes a pragmatic path for merchants starting out on the retail analytics journey.

In this white paper:

- ◆ **5 Ways** of transforming retail through big data analytics
- ◆ **Case Study:** Personalized marketing using web-mobile solution set
- ◆ **Where to Start:** Action plan for retailers

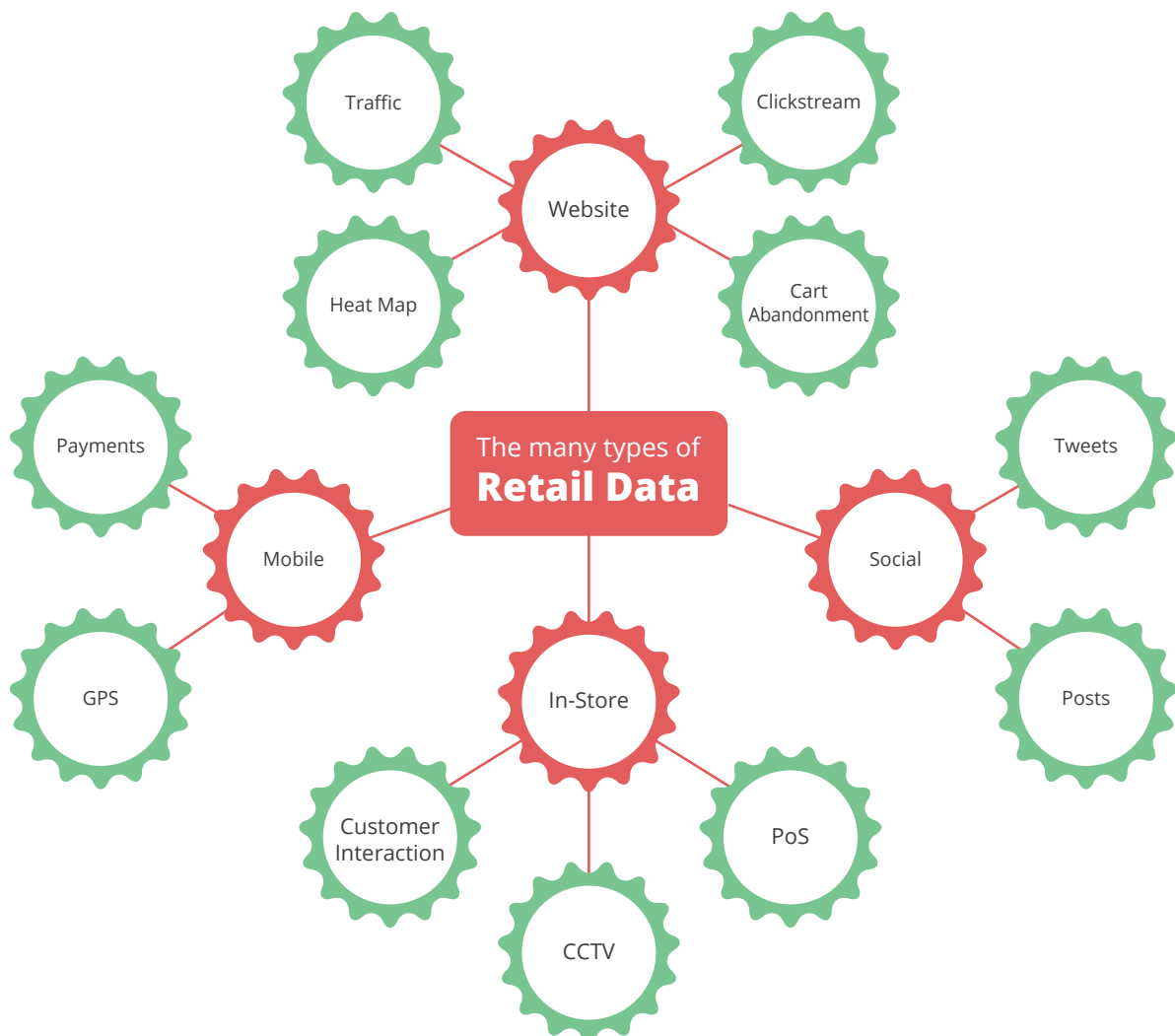
No Dearth of Data

Today, retailers generate vast amounts of data across the numerous touchpoints in their multichannel operations. As opposed to limited contact points in the case of brick-and-mortar store operations, customers now interact with brands across multiple platforms—web, social, mobile—generating a wealth of assorted data.

This mind-boggling surge of data is only expected to grow in the coming years as recent studies, including Gartner's, indicate. The formats in which the enormous data sets reside—emails, online reviews and ratings, images, videos, chats, IMs, blog posts, RFID, beacons, WiFi signals, and more—are as random and varied as the speed at which they are being generated.

"Information is going to be our generation's next natural resource like steam was to the 19th century."

Terry Lundgren
CEO, Macy's



For retailers, data can be an asset only if they are able to make sense of it. Retailers are tasked with sifting through the enormous pile to collect what is valuable while ensuring nothing relevant is lost. More and more merchants are embracing big data technologies to achieve this goal with increasing precision.

In an industry shackled by slow economic growth and challenged by the disruptive trends associated with digital consumers, retailers are trying to increase their share of the customer base by offering convenience and personalization that have never even been considered earlier. While the application of data analytics in retail to improve operational efficiency, customer service, or product marketing strategy is not entirely new, the focus now is markedly tilted towards effectively engaging with the current genre of digitally savvy customers through omnichannel retailing. Hence, it has become important for retailers to have a 360-degree view of consumers. Through a comprehensive understanding of consumer behavior and preferences, merchants can aim to have highly relevant interactions with them and thus, win in the competitive market environment.

Big Data Analytics in Retail: Five Areas to Focus

1 Personalization

Retail industry is moving from blanket promotions towards targeted and personalized offers. In fact, independent retailers foresee **data personalization as a top driver of increased revenue** in the immediate future. While 22% retailers already make use of data for personalized marketing, another 35% plan to use it shortly¹.

Customer data has never been scarce in the retail sector. Employing techniques such as behavioral targeting, psychographic segmentation, or purchase pattern analysis, retailers can make individual offers and product recommendations to customers, both online and in store. Recommendation engines that rely on machine learning techniques and collaborative filtering algorithms can be used to promote personalized content on websites. Social conversations are a treasure trove of information for retailers who care to listen and act upon it. Aware that a customer is planning a seaside vacation, a shop owner could dole out an irresistible one-time deal on beachwear. Connecting online and offline data enforces the "personalized retail" trend which strengthens customer loyalty and improves profit margins.

2 eCommerce Optimization

eCommerce is still a low source of revenue for independent retailers. However, eCommerce or omnichannel marketing is emerging as the business function with the highest potential opportunity for analytics impact².

With big data analytics, retailers can improve the performance of their online stores to generate greater revenue out of them. Digging into website analytics, heatmap studies, clickstream data and such, retailers can optimize product landing pages to ensure greater engagement and conversion rates.

Individualized product recommendations and offers based on historic web footprints of customers increase the chances of clickthroughs and sales. Items can be promoted scrutinizing data points such as product browsing activity by region (for example, demand for different garment sizes can vary drastically across geographical areas), user feedback and reviews, saved wishlists, or items in abandoned shopping carts.

3 Brand Evaluation

Social media channels and online networking platforms contribute immensely to the big data onslaught. Retailers are seeing boundless possibilities from information mined out of these platforms, ranging from market trend forecasts and holiday shopping patterns to product/service feedback and brand evaluation.

Customers voice their frustration and delight strongly through social media channels. Careful analysis of posts, tweets, and other social content using natural language processing tools can shed light on how customers perceive a brand. Following conversations of strong detractors, retailers can try to understand root causes for dissatisfaction and address those issues directly to improve brand perception.

Social sentiment analyzers capture social chatter to categorize them as positive, negative, or neutral. Retailers can monitor those sentiments in real time and analyze the sentiment trend over a period to measure the effectiveness of marketing campaigns and limited-time offers.

4 In-Store Shopping Experience

Shoppers visit physical stores to satisfy their senses as well as to interact and socialize. Store visits can also lead to greater brand engagement. Retailers have to effectively combine customer data from online, social, and mobile channels with in-store analytics data to provide a seamless shopping experience within the store.

From interactive storefronts to recommendations printed on till receipts, retailers big and small are finding newer ways of engaging with customers at physical stores. Video analytics serve to identify hotspots within retail outlets from data recorded on video cameras and CCTVs. Shelf layouts and endcaps can then be adjusted to leverage these favored areas.

Utilizing proximity and micro-location technologies, shop owners can send out targeted messages to customers as they pass through various departments. Information captured from multiple touchpoints, including point-of-sale, beacons, customer service agents, or surveillance cameras, helps to plan in-store marketing campaigns and measure effectiveness of advertisements.

5 Dynamic Pricing

Online sellers of all sizes are catching on to data-driven repricing that has disrupted the retail industry. Price optimization software allows online merchants to hike or lower prices depending on demand and sale of products.

Manually changing prices on every SKU (stock keeping unit) will not cut it in today's retail industry. Repricing engines continuously monitor market trends, competitor prices, and consumer demand to come up with dynamic prices. Such pricing software can have minimum and maximum price limits set to ensure prices displayed to shoppers are always in the best interest of the retailer.

Using price optimization engines, retailers find it easy to clear old stock or protect limited stock to capitalize on surging consumer demand during peak season. Real-time monitoring capability of pricing analytics software enables online stores to implement time-based pricing that is constantly re-adjusted according to the time of day and dwindling stock. Tapping into customer shopping history, retailers can even offer flexible prices such as bigger discounts for repeat or regular customers.

At a Glance

Key Areas

Aiming for higher ROI through greater customer engagement, retailers will employ big data analytics to:

Personalize marketing and service

Enhance in-store shopping experience

Evaluate brand perception on social media

Optimize eCommerce

Offer dynamic pricing

Getting Started: First Step Towards Retail Analytics

Insights from retail analytics can tremendously alter the way consumers and brands interact with each other, positively impacting brand affinity and profit margins. From dynamic price optimization to store design and service personalization, application of big data analytics can be evidenced in all facets of the retail industry—merchandising, operations, and marketing.

Case Study



Retail Analytics Solution for Personalized Service

A leading technology company wanted to recreate the convenience and efficiency of online shopping in physical stores. It wanted to personalize customer shopping experience while providing retailers with precise data to make informed business decisions.

QBurst Solution

The analytics solution developed integrates data from various online and offline channels to create a personalized in-store experience for digitally savvy customers.

- The shopper app utilizes micro-location beacon technology to help retailers promote products and offers based on customers' proximity to certain products or departments.
- Admin and marketing consoles help analyze in-store marketing campaigns, positioning of endcaps, store design, and sales information through data collected from locations throughout the store. Social media integration contributes to deeper insight into customer preferences.

With proven case studies of early adopters such as Wal-Mart, Amazon, or Macy's, merchants have become increasingly aware of the transformative potential of big data and many plan to add data analytics to their arsenal. The question before them is: **How?**

Retail Analytics Readiness Assessment

Without clear-cut strategy and planning, the data analytics journey can turn into a nightmare for retailers. If you think you are ready to dive into retail analytics, we can perform an exploratory analysis of your business data and provide you an assessment report. The readiness assessment report will deliver expert recommendations and a retail analytics road map to help your business get ahead with data-driven insights.

QBurst Retail Analytics Readiness Assessment

- ✓ Exploratory analysis of your data
- ✓ Expert recommendations
- ✓ Detailed analytics road map

To initiate a readiness assessment for your retail business, write to us at info@qburst.com.

References

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2. EKN. (n.d.). State of the Industry Research Series: The Future of Retail Analytics 2013 [PDF]. Retrieved from <http://goo.gl/7TaEJs>

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