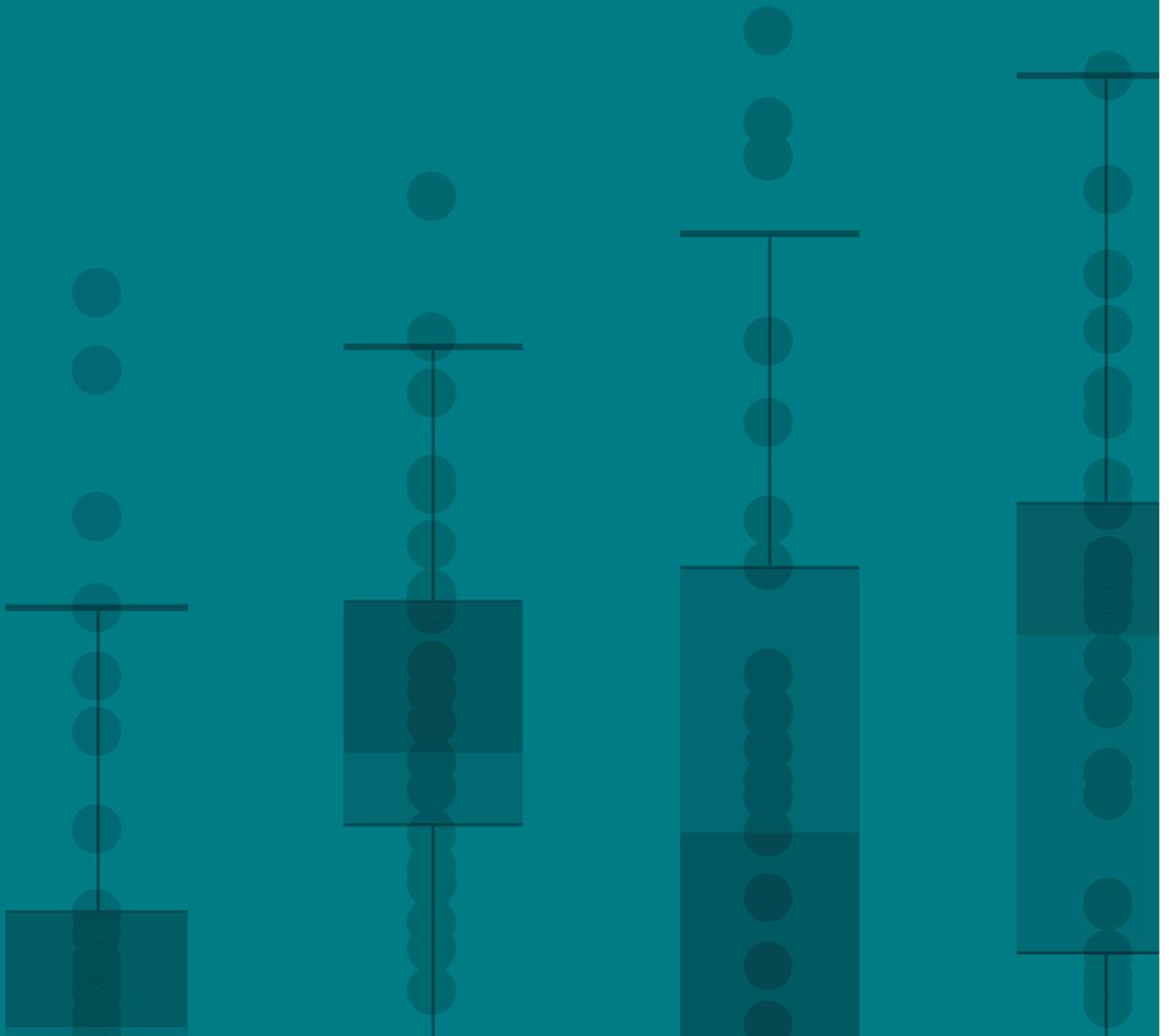




Top 5 Trends for 2019 Retail Analytics



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Introduction

Looking ahead to 2019, we expect to see global retailers continue to grow their analytics initiatives. These initiatives are beginning to drive competitive advantages for data-driven organizations, from our customers in large global entities to smaller shop retailers.

At Tableau, we're continually capturing input from our customers and partners, and over the course of the year, we've seen clear trends begin to emerge. These are the five analytics trends we think should be top-of-mind for every retailer, regardless of where you are in your digital journey.

Here's to data-driven success in 2019!

Jeff Huckaby

Global Market Segment Director, Retail and Consumer Goods

Customer metrics take focus

For retailers, digitalization and omni-channel strategies have driven much-needed technology investments that are focused on the customer. In fact, the entire retail industry is transforming from being product focused to being customer focused. The evolution is long overdue—and with it, there's a need for a renewed focus on customer metrics.

More companies can recite sales growth or same store sales performance, but does everyone (from executives to front line workers) know the key customer metrics, and how they impact the customer journey? In 2019, we'll start to see various customer metrics begin to take center stage. Customer retention, churn, lifetime value, digital reach, growth, enterprise voice of the customer, sentiment and emotional scoring, customer satisfaction, digital engagement, and net promoter score are some of the metrics that become familiar at all levels of the organization.

Today's retail is about customization. Every retailer will claim the customer is important, but many are still treating each customer the same. The first step for the modern retailer is to actively listen to the customer.

Artificial intelligence goes to work across the organization, providing tangible business value

Our lives are already being touched by artificial intelligence (AI). From “you may also like” online shopping suggestions to cashierless stores, artificial intelligence is already making an impact on day-to-day living. In the retail world, AI is no longer at the proof of concept stage—retailers are actively harnessing AI to improve efficiency and drive profitability.



AI is an enabler. The bottom line impact of using high quality predictive models is astounding. At DataRobot, we helped a retail customer in Asia improve inventory forecast accuracy by 9.5%. That lift in predictive model performance and optimizing operations led to an estimated \$400 million increase in profit in less than 3 months.

– Jen Underwood, Senior Director, DataRobot

In 2019, we are going to see continued adoption. A few of these use cases will include:

- Better, faster predictions of inventory levels to increase on-shelf availability
- Better marketing attribution models
- Better pricing decisions
- Image recognition from photos and videos
- Calculating and measuring sentiment and emotional scoring
- Natural language generation becoming a core part of the analytics stack for enterprises
- Natural language query becoming a common way for retailers to ask questions of their data
- AI to help surface new and complementary visual analysis

Companies like Home Depot are using AI to identify hard-to-find anomalies throughout the entire customer ordering process for custom-made window blinds. Home Depot is able to predict when their customers will experience anomalies, and then collaborate with their blinds vendors to resolve them. This has tangible, favorable impacts on their customers, eliminates costly remakes, and improves their customer experience.

Watch this presentation and hear how Home Depot uses machine learning for vendor accountability.



Daily Flash Sales reporting finally evolves

For decades, the Daily Flash Sales report has been a staple of retailers around the world. For many retailers, this report hasn't changed. It is rows and rows of data, most of the time in PDF or Excel. It provides sales versus last year, broken out by day, week, month-to-date, and budgets for those time periods. Some flash reports will include margin or profitability—and usually the flash reports are siloed by department.

Thanks to technology innovation, Daily Flash Sales is changing. Today, reports can be accessed on mobile devices, offering a dynamic, interactive user experience that allows people at different levels of the organization to understand their contributions to the whole. Mobile reporting supports alerts, or push notifications, that can let users know when KPIs are not going to be achieved, or if results are trending in the wrong direction.

The new Daily Flash Sales report merges sales data from digital platforms with traditional brick and mortar sources, where the focus is on customer satisfaction. Customer KPIs are visible right beside sales metrics—important to retailers because customer metrics are essential for creating a relevant experience for the customer.

Most significantly, the modern Daily Flash Sales report is visual. Gone are rows and pages of raw numbers. Winning retailers are demanding visual analysis that will quickly and easily reveal exceptions or reinforce positive performance in context. Visual analytics tell a story of performance and are not simply a data dump. They also have dynamic narratives that explain, in readable form, additional insights complementing the visual analysis. Users on mobile devices or desktop can take advantage of natural language interaction—simply asking their questions via typed text or using voice and receiving detailed visual analyses on demand.

5G networks allow retailers to take a leap forward

Over the past few years, many compelling technology solutions have been developed for analytical users, but the core architecture wasn't where it needed to be. For example, mobile BI was really hot five years ago, but users experienced poor wifi service and coverage, inadequate mobile device manager software for managing thousands of devices, and insufficient mobile BI development tools. Now these issues have been resolved, and we're seeing massive deployments in mobile BI.

Today we're on the cusp of another burst of technology innovation. In mid-to-late 2019, the largest carriers will deploy the latest generation of wireless internet, 5G. 5G will allow for incredible speeds, at the gigabit level, with very low latency. (Latency is the time it takes for two devices to respond to each other, measured in milliseconds. 3G's latency was 100 milliseconds, 4G is around 30 milliseconds, and 5G will be as low as 1 millisecond.) 5G will lay the infrastructure for autonomous vehicles to communicate with the internet and deliver goods from retailers to their customers.

For retailers, 5G means video analytics will become real in a hurry. Possibilities include using artificial intelligence tools to send smart phone alerts to the manager and associate when VIPs enter your store. Video analysis will allow us to be able to see customer traffic patterns and what brands people wear and are interested in. T-Logs from point of sales systems will be cross referenced with real-time 4K video, and the transmission of this video/data will move into the cloud almost instantly, ready for true real-time analysis.

Faster connectivity will eventually make it possible to enable real-time, augmented and virtual reality tools. As a merchandising or regional manager, you will be able to virtually zoom into a store, in real time, and see whether products are faced according to your planogram. In this scenario, manual, batch loading of data will be replaced by streaming analytics technologies that are powered by 5G—delivering new efficiencies for busy managers who need to focus on maximizing profits instead of data gathering.

In the future, this low-latency, high-capacity connectivity will allow for contextual BI to become a reality. Contextual BI? Imagine a store manager standing next to a shelf of Levi's jeans. The manager opens an analytics app on his or her smart phone, and the app geolocates the manager near the Levi's. With this information, the app can display in-context metrics about that specific Levi's sku.

Inventory awareness is taken to new levels

In this new age of digitally-enabled speed and convenience, customers have high expectations. At the minimum, your customers should be able to easily find the products they want, and purchase the products how they wish.

The RFID Lab at Auburn University did a [study](#) concluding that on average, inventory accuracy for retail stores is 65%. And with customers wanting an integrated, seamless retail experience—from online ordering to in-store pick up and delivery—inventory visibility and accuracy is table stakes to stay in business.

Inventory visibility, enabled by visual analytics, can accelerate data understanding from manufacturing to fulfillment to shelf placement. With actionable, visual analytics, it's becoming easier for all stakeholders to use these new insights for strategic advantage. Between Internet of Things (IoT), robotics, and artificial intelligence, there are now powerful options to improve inventory accuracy, and the topline and bottomline benefits are massive.

A global consumer goods company—and Tableau customer—used visual analysis to view the entire inventory life cycle. The analysis allowed them to see the big picture, identify problems, and find solutions. As a result, they were able to reduce holding inventory, which freed up working capital by over \$200 million.

Another retailer used IoT sensors on container ships to identify inventory movement from manufacturing facilities overseas. They were able to see and then eliminate inefficiencies that cut the days in shipment in half—from 8.4 days to 4.

In 2019, retailers will see more of their peers adopt robotics. AI-enabled robots can be programmed to count inventories on shelves and create maps of where the products are. This is a new data source that will allow retailers to share inventory placement and routes with customers via mobile applications.

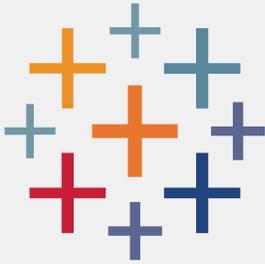
More accurate inventories will allow retailers to integrate inventory data with Google search, making it easier for customers to quickly locate—and purchase—the products they're looking for in real time.

In a competitive and quickly changing environment, the retailers that are equipped to meet and exceed customer expectations have a clear competitive advantage. And data analytics will play a crucial role.

After all, all it takes is one bad experience due to bad inventory data to lose your customer's trust. The stakes are at an all-time high.

Conclusion

At Tableau, we've seen over 8,000 retail and consumer goods customer accounts continue to make huge strides in 2018 by building their data analytics culture and platforms. And from the trends shared above, one can easily see how we will generate **163 zettabytes of data by 2025**. But these evolving capabilities will only generate more opportunities to analyze and learn, to experiment, to innovate, and to meet the needs of our customers as we head toward analytics ubiquity. Having a data-driven culture is a must, and with data volumes growing exponentially, the competitive advantage for those that do embrace data analytics will continue to grow. At Tableau, our employees and partners around the world are excited to be on this transformational journey with you.



About Tableau

Over 80% of the top 100 retailers and over 8,000 retail and consumer goods companies around the world trust Tableau to help them understand their data and create actionable insights.

On the Tableau platform, it's easy to explore your data, create dashboards, and perform ad hoc analyses in just a few clicks. Visit our [Retail Solutions page](#) and learn more about how Tableau can help you discover actionable insights to build your competitive edge.

Ready to explore more? [Download a free trial](#) and experience the power of Tableau for yourself.