# Using Big Data to Optimize Distribution Strategy

## HOW RETAILERS ARE IMPROVING CUSTOMER EXPERIENCE, MANAGING INVENTORY, AND BOOSTING PROFITABILITY WITH DATA

EBOOK 2017

## CRG
Cura Resource Group

# Introduction

The year 2017 saw much shake up in the retail sector. More purchases were made on mobile devices than desktop computers. Big-box retailers reinvented distribution. And online giants moved into physical storefronts. Omni-channel retail using blended shopping and delivery platforms became the new normal.

But the real news is that 2017 also marks the year that "shopping" changed for good.

Buyers stopped choosing between e-commerce and brick-and-mortar and started choosing convenience, price and personalization. Sellers acknowledged that customers aren't choosing between websites, mobile apps and stores – they're choosing the best customer experience.

"Big data" is at the heart of a great customer experience. Businesses use information about who's buying, what they're buying, and where they're buying it to inform marketing, track sales, manage inventory, design new products, and optimize distribution.

There's a flood of data out there, from more sources than ever before. Digital channels, CRM systems, marketing technology, POS systems and smart warehouses capture every step of the buyer's journey. You could spend all day – every day – trying to use your data to grow sales, get new customers, and operate more efficiently.

This guide is designed to help you understand big data for retail and how to effectively use data to drive retail distribution strategy.

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# Retail 4.0

Think back to one of those old western movies. Merchants had a front door (with a bell), a showroom, a stock room and a cash register. The shop owner knew everyone, and everyone knew him. Transactions were handled with cash, but he might let you buy on credit if you were a little short. And nobody ordered ahead and waited for delivery. Shopping was a personal, face-to-face event.

Today we have websites, mobile apps, kiosks, catalogues, call centers and, oh yes... stores. With customers using connected devices, the internet and cloud computing, merchants aren't in the retail business – they're in the retail 4.0 business.

### Why 4.0?

1. First there were stores.

2. Then there was online shopping.

3. Then there was mobile.

4. Now, we have personalized selling made possible by e-commerce and big data.

We're living through a retail revolution. Technologists will tell you that "big data" is the culmination of more data, faster data processors, and better, more detailed analytics. For retailers, big data is the backbone of a flexible, seamless, responsive shopping experience for their retail 4.0 customers.


# Technology changes the way we buy

Millennials and other digital natives have grown up with the internet and mobile phones. They're accustomed to browsing for clothes or cars or hotels on their phones in their free time. If they don't feel like swiping or tapping, they tell electronic assistants like Siri and Alexa what they want, and the internet delivers. They expect merchants to remember them *and* the last thing they purchased.

Most millennials have never written a check or paid a paper bill. Why bother when you can pay electronically?

It also doesn't occur to them to go to a store. They expect the store to be wherever they need it, whenever they need it. They don't discriminate between brick-and-mortar and online channels. The brand is the brand – it should be everywhere they are.

Radical changes in the way people buy are driving radical changes in the way sellers sell. All that technology is enabling retailers to gather enormous amounts of data from customers, vendors and employees, which is transforming retail value chains, from raw materials to last-mile delivery.

**Digital Payment Methods Used by Internet Users in North America, by Age, March 2017**

*% of respondents in each group*

**Card-branded digital wallet (e.g., Visa Checkout, MasterPass, Amex Express Checkout)**
- 16-22: 43%
- 23-37: 29%

**Third-party money transfer system (e.g., PayPal)**
- 16-22: 40%
- 23-37: 52%

**Store-branded mobile payment (e.g., Starbucks, Walmart Pay)**
- 16-22: 33%
- 23-37: 38%

**Device-specific mobile payment (e.g., Apple Pay, Android Pay, Samsung Pay)**
- 16-22: 33%
- 23-37: 22%

**Peer-to-peer payments (e.g., Venmo, Chase QuickPay)**
- 16-22: 16%
- 23-37: 22%

**None of the above**
- 16-22: 13%
- 23-37: 18%

■ 16-22    ■ 23-37

*Note: n=1,027 who have experience with customer service or have made a digital purchase; in the past 3 months*
*Source: American Express, "Raising the Bar: How Gen Z Expectations Are Reshaping Brand Experiences" conducted by Forrester Consulting, May 11, 2017*

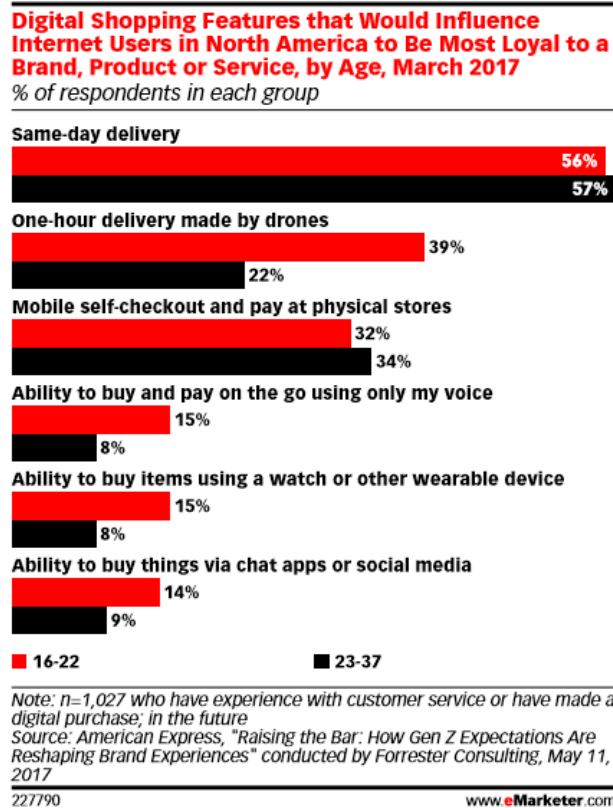227789                                                    www.eMarketer.com

## Data is people.

Why does big data matter? Because data is people. Every search, purchase or exchange generates a record of someone doing something — fulfilling an order, visiting a website, accepting a delivery, or picking and packing an item in your warehouse — that impacts your operations.

The biggest merchants have teams of developers, analysts and digital marketers that gather, structure and dissect data from every channel. Like medical technicians checking a patient's vital signs, they monitor the business around the clock to see what's working, what's selling, who's buying, and how efficient the overall operation is.

Data can come from inside or outside your company. Inside, GPS-enabled smartphones, scanners, and Internet of Things (IoT) enabled sensors track inventory from store shelves to the customer's front door. Social media listens to customer feedback and measures marketing impact. POS systems and e-commerce shopping carts track product sales, returns and exchanges. Outside data can come from hundreds of cloud-based services such as Google Maps or local news, weather, and traffic sources. Taken together over time, all this data sheds valuable light on the health of your supply chain.

Dr. Matthias Winkenbach, director of MIT's Megacity Logistics Lab, notes that "most companies have all this data, but they struggle to connect the dots. … For example, connecting real-time traffic data in the cloud with historical traffic statistics can offer valuable insights into local congestion patterns over time. That information can be used to optimize predictive planning of delivery routes."

**Digital Shopping Features that Would Influence Internet Users in North America to Be Most Loyal to a Brand, Product or Service, by Age, March 2017**
*% of respondents in each group*

**Same-day delivery**
56%
57%

**One-hour delivery made by drones**
39%
22%

**Mobile self-checkout and pay at physical stores**
32%
34%

**Ability to buy and pay on the go using only my voice**
15%
8%

**Ability to buy items using a watch or other wearable device**
15%
8%

**Ability to buy things via chat apps or social media**
14%
9%

■ 16-22    ■ 23-37

*Note: n=1,027 who have experience with customer service or have made a digital purchase; in the future*
*Source: American Express, "Raising the Bar: How Gen Z Expectations Are Reshaping Brand Experiences" conducted by Forrester Consulting, May 11, 2017*
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Boston Consulting Group recommends five ways to get started with big data:
1. Focus on the most pressing opportunities.
2. Start with data you truly need.
3. Include front-line employees.
4. Analyze, translate into tangible actions, and let the organization validate your findings.
5. Be transparent with customers, and establish benefits for giving personal data to gain their trust.
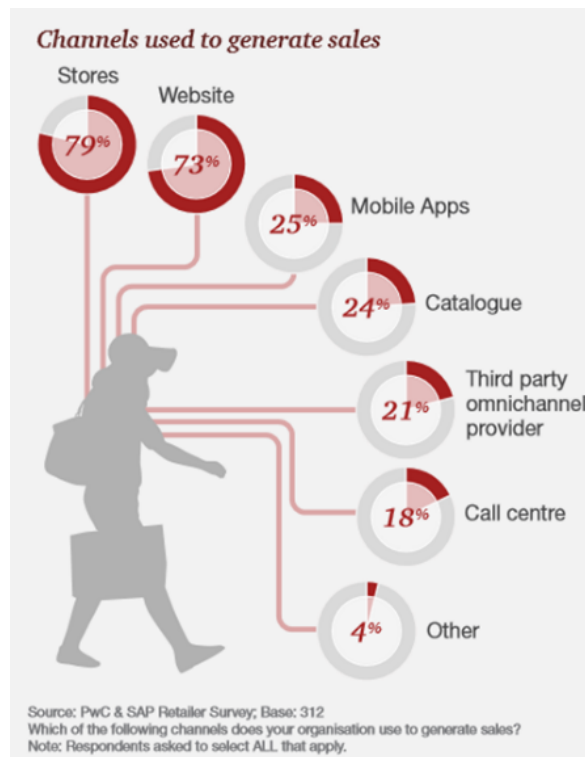
# Enabling the data-driven experience

Today's cutting-edge merchants have an integrated, branded, omni-channel sales model to satisfy their connected customers.  Luxury brands offer exceptional service in every channel. Discount brands make it easy to compare prices on the web and in the store. Fashion brand looks beautiful and cool everywhere you encounter them.

Retail may be innovating faster than any other industry when it comes to "digital transformation," but stores are not going away anytime soon. They're evolving into a more engaging, exciting part of the retail landscape.

Showrooming (keeping a limited number of items on the floor for purchase online), webrooming (researching online but buying in the store), and augmented reality dressing rooms and home visualization apps are making shopping faster, easier and more fun.

Big data and IOT are enabling a more integrated shopping experience than ever before. Combining local presence with the convenience of the internet is a win-win combination.



Channels used to generate sales

Stores 79%
Website 73%
Mobile Apps 25%
Catalogue 24%
Third party omnichannel provider 21%
Call centre 18%
Other 4%

Source: PwC & SAP Retailer Survey; Base: 312
Which of the following channels does your organisation use to generate sales?
Note: Respondents asked to select ALL that apply.

# To know me is to love me

A recent survey by BlueVenn, a customer analytics and marketing company, found that real-time personalization was the number one data-driven marketing trend of 2017 because shoppers expect you to know who they are and what they want *before* you try to sell them something. "Consumers see [personalization] as the mark of a brand that knows what it's doing, and knows how best to serve them," BlueVenn reports.

With correct customer information, firms have two big advantages:

1. They can more accurately predict what customers want to buy, and when they want to buy it. With visibility into customer demand, they can stock the right products in the right stores at the right time, which boosts profitability and reduces supply chain waste.
2. They can engage in authentic conversations and meaningful promotions through social media, e-mail, and online ads, which builds loyalty.

Consulting firm Boston Consulting Group says investing in real-time personalization can have big returns – some **$800 billion over the next five years** to the 15% of companies that get it right. But BCG also points out that almost three-fifths of companies struggle to effectively measure and attribute the impact of their personalization campaigns, and nearly three-quarters say they don't have the expertise to analyze personalization results.
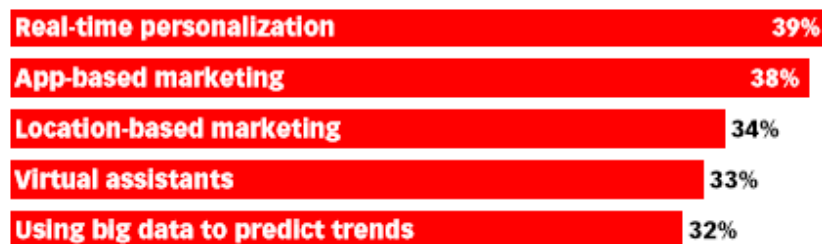
Personalization is one of the most valuable, yet elusive, outputs of big data. 41% of marketers must manage more than 20 data sources for every customer, and 82% feel they're not yet able to bring multiple data sources together into a 360-degree customer view, according to BlueVenn.

**Data-Driven Marketing Trends that US B2C Marketers Plan to Embrace, Feb 2017**
*% of respondents*

| | |
|---|---|
| Real-time personalization | 39% |
| App-based marketing | 38% |
| Location-based marketing | 34% |
| Virtual assistants | 33% |
| Using big data to predict trends | 32% |

*Note: in the next 5 years*
*Source: BlueVenn, "Data Deadlock," April 26, 2017*

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# Data: the great equalizer

In the retail business, size matters. Four out of five brands say they're successfully collecting and using data across channels and phases of the buyer journey, according to an October 2017 survey by Criteo and Forbes Insights. But they also worry about the "Amazon effect," where large players use massive amounts of data to offer better prices and more convenient interactions than small competitors.

"On one side are companies who own and control large amounts of customer data and are able to leverage it to fuel their growth and dominate the marketplace. On the other side, there are those still struggling, unable to keep pace or maintain market share without access to large data sets and the ability to fully leverage them." - Forbes Insights, The Commerce Data Opportunity

Data cooperatives are one way smaller chains are coming up with the resources to gather and process enough data to track and forecast retail trends. Some retailers share non-personally identifiable data with each other, including online search, website usage and in-store point of sales. Others share product and real-time sales data with their suppliers; sharing localized, real-time results can help minimize out-of-stock situations.

Aggregating reliable data at scale can level the playing field between big retailers and everyone else.

> *"Data is the great equalizer in this time of division, and global executives agree that a shared approach is the key for gaining an upper hand in the battle for consumers' share of time, attention and wallet." – Bruce Rogers, Forbes' Chief Insights Officer*

**What is the greatest challenge you face in providing an omnichannel experience for your customer?**

- 30% Budget constraints
- 21% Too many legacy systems to change
- 20% Difficult to integrate existing systems
- 13% Not a priority for our leadership team
- 10% Lack of expertise
- 6% Lack of internal resources

Source: PwC & SAP Retailer Survey; Base: 312

## Data and the last mile

It's not enough to gather, or even analyze big data. You must extract the story it tells about your operations in the real world to advance your business and improve your customers' experience.

One of your most important stories is:

- What happens to a delivery after your truck leaves the warehouse?

- How long does it take to get to a drop-off?

- What percentage of deliveries are completed?

- Do you have too few trucks or too many trucks in the same area?

Many merchants rely on third-party logistics partners to help tell their last-mile story. The 2018 22nd Annual Third-Party Logistics Study by Infosys Consulting concludes that "collaborating with other companies, even competitors, can achieve logistics cost and service improvements", and that "supply chain operations continue to provide a competitive advantage ... and can be a key differentiator between businesses in all sectors."

Big data can help you see patterns that indicate recurring problems in your delivery operations. Construction, weather and even parking-ticket data can help you plan and adjust delivery routes, especially in crowded urban environments. MIT's Dr. Winkenbach says his data shows "deliveries in big cities are almost always improved by creating multi-tiered systems with smaller distribution centers spread out in several neighborhoods."

70% of respondents to the Infosys Consulting survey said that "improving logistics optimization" was the best use of big data, and "data-driven decision making is the key to increase asset utilization, improve efficiency and decrease volatility."
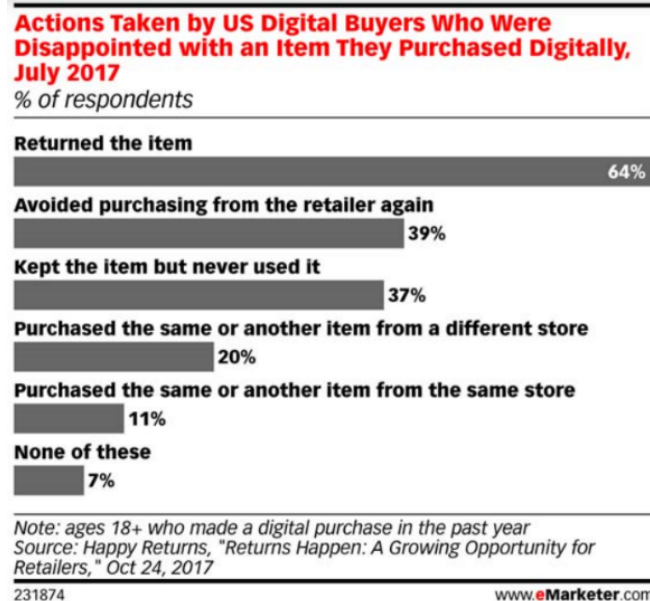
## The human touch

Despite all the excitement and enthusiasm around data-driven transformation, most experts agree that people are still a merchant's most important asset, even in a digital world. Data won't restock your shelves, negotiate with suppliers, or walk the factory floor.

While customers enjoy the freedom of shopping whenever they want from the privacy of their own home or office – or even their cars – they still appreciate the opportunity to talk with a sales assistant, especially for high-price and high-touch purchases like electronics and clothing.

The return- and exchange-by-mail process can be particularly fraught, not to mention expensive, for online and direct sellers. In a recent *Forbes* post, contributor Steve Dennis notes that "e-commerce is often unprofitable due to high supply chain costs–  and a huge driver is the high rate of returns." That's one reason online and direct sellers are opening stores and local pick-up centers and experimenting with return lockers and other physical locations where items can be returned in person.

Returns are also a sore point for customers, who often say they would shop online more often if returns were easier. According to start-up logistics company Happy Returns, "roughly two-thirds of digital buyers have returned an item after purchase, and 39% say they would avoid purchasing from the retailer again."

Infosys Consulting points out that "the role of supply chain leaders and logistics executives is taking on greater importance as companies build more ... technologically advanced supply chains." At the end of the day, it's still the people using the data who make the difference.

**Actions Taken by US Digital Buyers Who Were Disappointed with an Item They Purchased Digitally, July 2017**
% of respondents

| Action | % |
|---|---|
| Returned the item | 64% |
| Avoided purchasing from the retailer again | 39% |
| Kept the item but never used it | 37% |
| Purchased the same or another item from a different store | 20% |
| Purchased the same or another item from the same store | 11% |
| None of these | 7% |

Note: ages 18+ who made a digital purchase in the past year
Source: Happy Returns, "Returns Happen: A Growing Opportunity for Retailers," Oct 24, 2017
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# When shopping is just... shopping

Someday soon, no one will talk about shopping "online" vs. "in-store." They'll just say "shopping."

Consumers will expect brands, inventory, prices, promotions and customer service to be completely seamless from web to mobile to storefront. They will expect retailers to know who they are, what they bought, and what they want. They will reward merchants who make the end-to-end shopping experience as convenient and pleasurable as possible.

Sellers will base their end-to-end business models on unique customers instead of sales channels. Brands will collect and share customer data to drive personalized marketing, just-in-time fulfillment, location-based promotions and fast, secure last-mile distribution. Transactions will start in one channel and end in another. And sales staff will always know who's buying what, where to send it, and when to deliver.

To get to this "just shopping" future, retailers must embrace big data and understand the story it tells about customers, suppliers, competitors and employees. Like the merchant in the old west, they succeed when they can once again see their entire operation from showroom to stockroom and offer their customers a satisfying personal shopping experience.

# About Cura Resource Group

Cura Resource Group is a full-service supply chain firm with expertise in building and managing local sales centers. Our firm facilitates expansion into physical locations without the traditional investment in real estate and location development. By providing a local pick-up option for customers, we enable our clients to address costly delivery problems and capitalize on missed opportunities in major urban markets.



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