

The Consumer is the Channel

*Infusing cognitive capabilities to engage and differentiate
now and in the future*



Introduction

Retailers and consumer brands are dealing with a thicket of issues, not least of which is the disruption brought on by new technologies that have changed the game in two ways; introducing new business models from outsiders and elevating consumer expectations on engagement, convenience and service. In this environment, ankle-biters can turn into digital giants that whittle away share and profits. Beating those players at their own game will require considerable dexterity, not just in refining business and operating models, but more fundamentally by extracting the right insights from the right data at the right time.

Therein lies the problem. Companies are awash in all kinds of data. To surface buying expectations, trends and preferences, brands must track and interpret millions of customer data points, across their own channels and an array of external sources.

The global data supply reached 2.8 zettabytes (ZB) in 2012 - or 2.8 trillion GB - but just 0.5% of this is used for analysis, according to IDC.

By 2020, data volumes are projected to reach 40 ZB or 5,247 GB per person.¹ And that doesn't include the other sources of information required to understand the entirety of the customer lifecycle, from the types of experiences customers prefer to how their buying habits and expectations change over time.

Research shows that top performing consumer brands are more than twice as likely to use data analytics than their lower-performing peers.² Those analytics are critical to success. But the technology is only able to process a fraction of the volume and variety of data available today.

Traditional analytic solutions are based on programmable systems, which thrive on predictable, structured data, but struggle to make sense of the ambiguous, uncertain sources of information that characterize the world in which we live and shop. This rigidity limits their ability to extract meaning from context.

Cognitive computing systems have no such limitations. They are designed to ingest vast quantities of structured and unstructured information ranging from numbers and text to audio, video, sensory and other data. They learn at scale, reason with purpose and interact with humans naturally. And they go beyond if/then scenarios to generate hypotheses, reasoned arguments, and recommendations. Ultimately, they guide us to new and deeper understanding of customer behavioral patterns, merchandizing strategies, and operational efficiency.

An IBM survey finds that 94 percent of retail executives and 98 percent of consumer products executives intend to invest in cognitive in the near future.³ Many are already developing a vision for cognitive, identifying specific applications from marketing to merchandising, and creating a roadmap to begin their cognitive journey. And they believe, as we do, that cognitive computing will help them to exceed the expectations of even the most empowered of customers.

Addressing imperatives

As diverse as the global retail and consumer products industry is, most organizations share a number of common concerns, among them, growing customer fragmentation, intensifying competition, and continued downward pressure on margins. Digitization raises those stakes, by providing customers with greater access, choice and transparency, but it is also giving executives the means to redefine the consumer experience and innovate in profound ways. Cognitive systems build upon those efforts to drive deeper customer-centricity and operational efficiency. Here are some examples of how that is being done:

Infusing consumer engagement with cognitive capabilities

Customer intimacy drives differentiation. Surveys have consistently shown that just one negative experience can sever a customer's relationship with a brand.⁴ But accurately predicting the type of engagement, service, and products that consumers want is exceedingly difficult, not just because consumers have different wants and aspirations, but because those needs and expectations change moment-to-moment. And while data analytics and marketing automation techniques can help, most are unable to cohere all the data that must be gathered. They're also typically not designed to continually iterate that data, interpolate real-time customer feedback, and anticipate key patterns and buying habits in order to create targeted, impactful and coordinated outreach.

To deliver true personalization at scale, a complete view of each customer including preferences, propensities, transaction history and social media interactions is needed to derive pragmatic insights that will help organizations tailor outreach in a way that lines up with a particular moment, such as a consumer's location and activity, as well as their needs, wants and aspirations.

Cognitive can help, and the impact can be powerful. Under Armour's new UA Record™, for instance, will include a Cognitive Coaching System that will serve as a personal health consultant, fitness trainer and assistant, providing athletes with timely, evidence-based coaching around their sleep, fitness, activity and nutrition, and then letting them rate how they feel on any given day in order to drive data-driven correlations between their health and lifestyle practices and their overall well-being.⁵

Cognitive-enabled devices can also help store associates merge the immediacy of physical shopping with the intelligence of online shopping to provide instant, tailored service. Emerging cognitive applications like "Virtual Stylist,"

Cognitive computing has the potential to radically change the retail industry.



of retail executives familiar with **cognitive computing** believe it will have a critical **impact on the future of their business**



of retail executives familiar with **cognitive computing** believe it will **play a disruptive role** in the industry



of retail executives familiar with **cognitive computing** are likely to **invest in cognitive capabilities** in the future



Source: IBM Institute for Business Value Study

for example, will use data to help brands more precisely predict what clothing a customer will like, based on what complements the existing contents of their closet and their preferences. Those same capabilities allow retailers to go beyond offering recommendations based on historical transactions, e.g., "others who have purchased this item also bought..." and can instead tailor recommendations based on a variety of consumer preference variables, including their taste, style, budget and so on.

Because cognitive systems are by nature self-learning, they are ideal for allowing retail buyers and marketers to experiment and rapidly refine merchandising and promotional approaches based on customer and market feedback.

Cognitive computing can also provide a competitive advantage by helping organizations anticipate demand signals by combining internal and external data such as news, weather, social and events, extracting emerging patterns and formulating evidence-based hypotheses. This will allow brands to get a precise, holistic, micro-view in order to create detailed, actionable consumer recommendations. For example, one brand is using cognitive capabilities to tailor assortment, product placement, promotions and market potential by neighborhood.

Optimizing the value chain with cognitive capabilities

Good visibility can make the difference between hitting or missing a brand's quarterly sales targets. But the complexity and variability in retail value chains and the number of factors ranging from weather to dockworker strikes that can imperil vital shipments can make overseeing those logistics an extraordinarily time-consuming task. Cognitive computing platforms can relieve that often manual oversight function by analyzing data across channels and geographies, monitoring inventory flows automatically, and matching demand trends with purchasing and procurement. As importantly, they can also help with mid-and long-term identification of trends and pinpoint potential snags downstream in the value chain.

Once trained with the right data sets, for instance, a cognitive supply chain can manage routine processes and decisions automatically and can alert decision-makers when anomalies are detected. That can help retailers predict demand and reduce the risk of stock-outs, giving them a significant advantage over less digitally sophisticated competitors.

One retailer, for example, is using cognitive systems to refine its sourcing strategies by analyzing data around such things as weather forecasts, seasonal conditions such as allergies and flus, and other situational factors to predict the exact stock requirement for fulfillment. Those "headlights" can help improve decision-making and reduce costly merchandising holdups. Others are using cognitive to improve recruiting through social sourcing as well as facilitating co-creation with outside partners.

Cognitive tools are also helping brands manage the in-store experience. Location analytics, for instance, can map how customers move through a store.

Using a combination of Internet of Things (IoT) enabled sensors, cameras, and devices, cognitive technologies can track what parts of a store receive the most traffic in general and over different points of the day and week. Staffing can be aligned accordingly so customers get the service they need promptly.

The Hong Kong-based consumer goods company, the Fung Group, recently opened a new large-scale laboratory, the Explorium, that provides a controlled setting to observe in real-time how consumers interact with new technologies, products, and experiential retail environments. Using cognitive platforms, location-based technologies, sophisticated data analytics and other tools, Explorium's retail and brand partners can develop in-depth insights from contextual information, such as in-store traffic patterns and volumes, how many visitors entered a store, how many stopped at a specific location or category in the store, how they were engaged, and whether specific retail displays or promotional campaigns yielded conversions. These sorts of initiatives can help retailers accelerate their engagement and operational processes and help consumer brands innovate new products and promotions. Gaining this advantage has become far more urgent given the disruptive influence of digital giants.

The path to cognitive

Brands cannot act on cognitive without a clear digital agenda. This requires a well-articulated vision, aligned business outcomes, and an integrated foundation of data, analytics and cloud technologies. That IT infrastructure needs to be flexible enough to fast-track digital applications and harmonize applications with distributed devices, IoT instrumentation and existing systems. And all of this must be done with strong security and data protection.

That digital foundation will allow retailers to begin building out cognitive computing initiatives. Here are a few things to consider when getting started:

- **Develop a cognitive strategy**—Cognitive capabilities can fundamentally transform retail, but only if the vision is fully articulated. Your specific goals must be established within the competitive context of your markets. Critical data sources must be identified, along with the services and processes that can fully benefit from cognitive. And experts must be available to train cognitive systems.
- **Set secure, scalable and open technology foundations**—In order to build cognition into the objects, products, systems that matter, your IT architecture must be open and stable. Public, private and hybrid cloud resources underpin this work, along with trusted security from the core to the edges of the network.
- **Develop expertise, applications and solutions**—Collecting and securing data is only half the battle. Putting it to work is where your benefits will accrue. To do this, applications should be written to align closely with your strategic goals, but allow for the kind of serendipitous discovery for which cognitive computing is known.

Conclusion

Customers are not going to get any less demanding over the coming years. And innovative start-ups will continue to disrupt the status quo. Data is the raw material brands need to harness in order to serve up better customer experiences. We just haven't had the means to mine it effectively. Until now.

IBM's Watson is the first and only complete cognitive computing platform. When Watson defeated *Jeopardy!* champions Brad Rutter and Ken Jennings in 2011, it did one thing—natural language Q&A, based on five technologies. Today, Q&A is only one of many Watson capabilities, from machine learning to visual analysis. And many of these capabilities are integrated and made available to developers as application programming interfaces (APIs), such as sentiment analysis, visual recognition and decisions support.

IBM works with 40 of the top 50 retailers in more than 175 countries and Watson is currently engaged with clients in 25 countries and 20 different industries. By combining Watson with our deep industry expertise, IBM can deliver a safe, secure cognitive computing experience for consumers.

For more information

To learn more, contact your IBM sales representative or visit ibm.com/retail and ibm.com/consumerproducts.



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Somers, NY 10589

Produced in the United States of America
March 2016

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- 1 Study: less than 1% of the world’s data is analyzed, over 80% is unprotected, The Guardian, Dec. 19 2012.
(theguardian.com/news/datablog/2012/dec/19/big-data-study-digital-universe-global-volume)
- 2 Your new personal shopping assistant, The Atlantic.
(theatlantic.com/sponsored/ibm-how-technology-transforms-2/your-new-personal-shopping-assistant/729/)
- 3 Thinking like a customer: Your cognitive future in the retail industry, IBM.
(public.dhe.ibm.com/common/ssi/ecm/gb/en/gbe03731usen/GBE03731USEN.PDF) and
Inspiring deeper brand enthusiasm: Your cognitive future in the consumer products industry, IBM.
(www-01.ibm.com/common/ssi/cgi-bin/ssialias?subtype=XB&infotype=PM&htmlfid=GBE03740USEN&attachment)
- 4 Just how high is the price for delivering a poor customer experience?, CMO Magazine.
(cmo.com/articles/2013/9/16/just_high_is_the.html)
- 5 IBM Press release.
(www-03.ibm.com/press/us/en/pressrelease/48764.wss)



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