

PREDICTION PUTS THE SMART IN SMART RETAIL

■ The outlook for Retail is sobering. The industry is facing some of the toughest challenges. What was just a means to increase margins or revenues has become a matter of life or death – innovation through digital disruption.

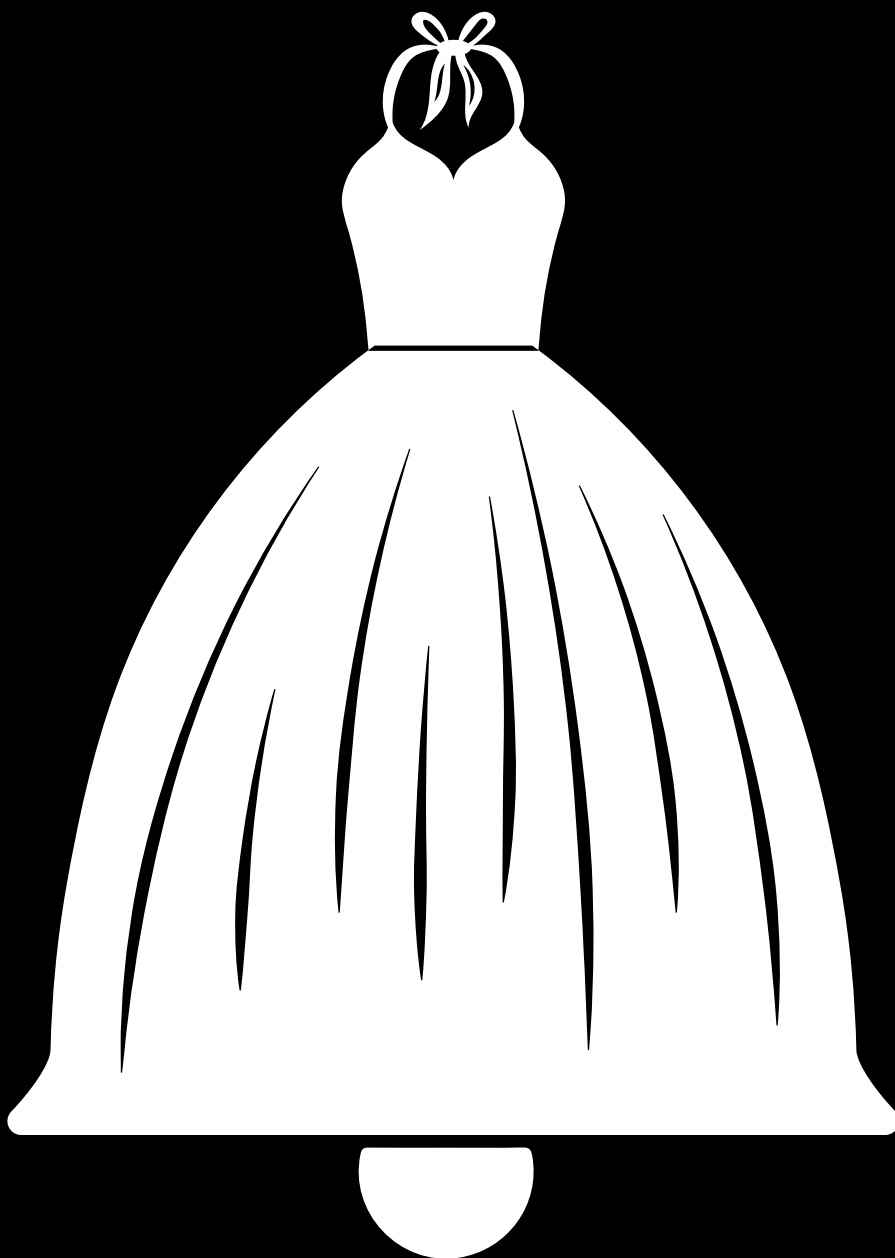
This need hinges on three basic capabilities delivered by technology:

IMMEDIACY: If a truck route is closed, we need to know now! In real time, so we can deliver the required inventory using another truck, via an alternative route. If a plant has to shut down, we need to know immediately, so we can plan accordingly. Data that is even a few days old is worthless.

INSIGHTS: The adoption of smart devices has generated large volumes of unstructured data. Using this data to generate insights and drive business decisions is imperative. On top of this, the convergence of retail and

consumer packaged goods (CPG) industries demands the reorientation of processes and business models.

INNOVATION: AI models are reinventing retail across product cataloging, merchandising, customer service, replenishment, demand forecasting, pricing, and logistics. 'Fast fashion' retailers such as Zara and Mango integrate AI, machine learning, and personalization technologies to better understand consumer behavior. It helps recommend products intuitively, empowering them to influence demand and better manage pricing as well as inventory.



Looking for this?

Powerful predictive analytics can delight shoppers by showing them things even before they realize they are looking for it.

The science behind predictive commerce

An AI ecosystem helps brick-and-mortar and e-commerce companies realize compelling value before, during, and after a purchase. Retailers can capitalize on the widespread adoption of smartphones and the potential of AI to improve the supply chain and create value for their customers. They can shift from responsive to predictive commerce, and from micro-segmentation to personalization. Besides, an AI backbone connects stakeholders and devices in the ecosystem to blur the line between online and offline shopping experiences.

Real-life example 1: Shoppers swipe interactive windows at the Westfield San Francisco Centre (a shopping mall) to learn about various premium brands and order the products on mobile devices.

Real-life example 2: The 'store mode' of cosmetics brand Sephora's mobile app integrates the online shopping cart with their Beauty Insider loyalty program, simplifying notifications, real-time updates, and redemption of reward points.

It is common knowledge that personalized content engages shoppers at a deeper level. AI-powered retailing creates immersive shopping experiences by connecting data from diverse sources and matching potential demand with product availability in real time. AI models integrate the browsing histories, Facebook conversations, Pinterest searches, and Instagram followers to provide granular insights into shopping behavior. It creates user profiles, assesses requirements, understands consumers, all of which help recommend complementary products and drive impulse purchases. This is the secret sauce of contextual commerce for retailers.

Influencing purchase

Recommendation systems powered by machine learning algorithms generate substantial revenue for Amazon and Netflix. The success of recommended purchases has encouraged Amazon to pilot an AI-based 'predictive delivery' program. Delivery trucks are stocked with items that are likely to be

ordered by shoppers while the trucks are en route for delivery in the neighborhood!

The Sears Auto Center has launched Digital Tire Journey, a service to enhance auto tire shopping. The AI-enabled app uses a set of questions to create a driver profile based on preferences and driving behavior. It recommends tires that match the vehicle and driver's performance as well as the most appropriate marketing channel for purchase.

Cognitive technologies provide computing devices with the ability to recognize handwriting and symbols, extract text from images and files, transcribe human speech, identify objects and faces, and understand user intent. An AI ecosystem processes queries in natural language, generates content from partial data, and sequences actions based on set parameters. Further, deep learning systems automatically validate machine-generated action, which ensures accuracy.

AI is not just for e-commerce. It can help brick-and-mortar companies by allowing them to shift from micro-segmentation to personalization.

AI-based processes predict transaction opportunities by getting to know shoppers and recommending personalized offers along the purchase path, without programmed instructions. It prompts shoppers to search for products even before they perceive the need for it.

Driving product discovery

Technologies that make sense of visual environments and engage consumers with two-way conversations elevate the shopping experience. The Pinterest Lens helps shoppers who are undecided about their shopping needs or have a limited vocabulary of a product to find it online. Pinterest's visual search algorithms evaluate similarity scores tagged with images to facilitate a user's search for home décor or fashion wear.

Machine-to-machine interfaces can be combined with simulation, augmented reality, and other virtual tools to automate complex tasks such as product design, selection of sizes for clothing and footwear, and consultations for skin care. Consumer interactions via the L'Oreal Diagnose My Hair app mimic in-store hair consultations. Adobe's AI image-editing tool adopts photorealism

to help handbag manufacturers convert rudimentary sketches into images.

A detailed taxonomy of products is critical for online discovery since product imagery alone cannot define the content, promotions, and marketing in retail. Inconsistent product tags, incorrect metadata, or incomplete attributes adversely affect product recommendations. Deep learning algorithms create a product catalog by extracting attributes, and classify products for intuitive search. Accurate classification of products enables AI entities to transform retail operations.

Providing personal assistance

Speech and facial recognition capabilities provide virtual shopping assistants with a personal touch. It converts apps into experienced concierge teams that can interact with shoppers, take orders, and share product information. Virtual assistants incorporate insights from diverse sources to make relevant recommendations, and deliver an omnichannel experience.

The Macy's On Call app combines cognitive computing and natural language processing with location-based software to guide

shoppers at stores. The AI system responds to queries such as the location of products within the store and details of a product.

AI is being embedded into products to minimize human intervention. While Amazon's Dash button automates purchases, Sharp is incorporating AI into home appliances for hands-free operations. Sharp's vacuum cleaners and microwave ovens can be controlled through voice commands. Nestlé SA has deployed robots as sales assistants at retail stores in Japan. The fleet of humanoids engages customers with product information and sells Nescafé products and vending machines.

Cognitive computing and automated systems enhance retail operations – from stock management and pricing to planogramming and promotions. They provide insights to optimize marketing spend and boost productivity at the store. However, technological progress must deliver compelling benefits to all stakeholders. Each retail enterprise should replace or augment human effort with AI to transform business processes. The success of AI-driven retailing lies in navigating a personalized shopping journey for every shopper.



AI systems understand consumers and their real-time requirements, which helps recommend complementary products and drive impulse purchases.

RPA: Velocity meets accuracy

Robotic Process Automation (RPA) provides retailers with opportunities to optimize costs and enhance efficiency across in-store systems and the supply chain. It eliminates human intervention in the retail-specific as well as administrative and generic back office processes. Rule-based systems for order processing, inventory planning, customer service, merchandising, product returns, and refunds can be processed faster and with better accuracy by RPA solutions.

Software robots integrate with enterprise systems such as finance and human resources to transform execution. It unifies data sources to simplify reconciliation. In the absence of manual data entry or repetition, databases are always auditable. Moreover, automated processes support reporting and compliance. Most importantly, RPA streamlines workflows and establishes a robust foundation for advanced analytics.



Retail enterprises should replace or augment human effort with AI to transform business processes.

About the Author



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Aniket is responsible for managing several key Retail and CPG clients globally, besides managing the industry vertical for Latin America and driving growth in that geography. Over the last 16 years, Aniket has played multiple roles at Infosys. Most recently, he headed the Americas operations for Infosys BPO, where he oversaw a team of 1,400 people across centers in the US, Puerto Rico, Mexico, Costa Rica, and Brazil.

Aniket has a deep understanding of the shared services and global business services (GBS) industry, and over the last 22 years has assisted several Fortune 1000 organizations architect and execute their GBS strategy.

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His interests include sailing, running, triathlons, and adventure sports.

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