Future of commerce: 
AI-augmented automated retailing 
and merchandising on AWS

Powered by TCS AWS Business Unit

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Retailers worldwide are dealing with common challenges

**Space Management**
- Shift to online - Focus on curbside pickups
- Stores as delivery centers
- Space to help reduce the supply chain stress

**Assortment**
- Drastic shift in consumer buying behavior
- Balance variety and availability
- Omnichannel assortment

**Price & Promotions**
- Margins thinning as operational costs are high
- Decreasing wallet size, varying demand patterns
- Balance between profitability in short run vs long term

**Supply Chain**
- Varying demand patterns
- Rapid onboarding new suppliers/new items

Leverage the power of AI to drive strategic merchandising decisions for the post-pandemic world
Retail enterprises must harness the power of AI with high-dimensional, concurrent, always-on optimization to enable retailers to hyper-localize and optimize their assortment, space and pricing strategies in an integrated way, with greater speed and precision in decision-making.

**New age retail platforms must include**

- **Macro space optimization**
- **Self-learning supply chain**
- **Price, promotion & markdown optimization**
- **Omnichannel assortment optimization**
- **Fashion assortment**

- Optimize space to drive autonomous space strategies
- Use AI-ML for concurrent optimization across supply chain KPIs, replenishment plans and forecasting
- Predict the success of new style, set initial price right leveraging computer vision capabilities
- Unify price, promotion and markdown decisions for sales growth
- Complete customers basket across channels considering demand transferability
- Build on belief

**Ingredients of market competitiveness and customer delight**
Driving higher sales and customer centricity

Help retailers improve sales and margins by localizing the product mix, right sizing space, and pricing competitively.

Reduce out-of-stock and over-stock across channels, with the right mix and right space.

Use predictive models to improve price competitiveness and mitigate margin erosion through strategic, responsive, and pre-emptive pricing mechanism.

De-risk investments through quick simulation, analysis, and accurate forecasting.

Measure in-store shelf compliance and ensure last mile execution of merchandising strategy.
AI in retail

- Improves accuracy and precision of strategic insights with predictive analysis
- Manages and analyzes ample data in reduced time and efforts
- Allows easy space utilization, placement of products, and pricing strategy
- Helps identify and understand the shoppers' buying patterns
- Assists in identifying growth and driving sales with the implementation of AI in retail
- Identifies gaps between demand and supply that can be monitored on a real-time basis
**TCS Optumera™: AI-powered retail optimization suite**

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**Analytics Toolkit: Insights Hub for Deep Features**

Insights at point of decision making: Clustering, Demand Transfer, Consumer Decision Tree, Affinity, Item Elasticity, Taxonomy, Customer Journeys & Intent

**AI Core (Automated Decision Pipeline)**

- Data Wrangling & Visualization
- Data Generation & Simulation (GANs)
- Sub-vertical Domain and Customer-specific Features
- Configured /Pre-learnt AI Models for Deep Learning, NLP, OCR, Computer Vision (XgBoost, CART, RL, RNN, CNN, LSTM, Others)
- Configured Hybrid Models
- Integrated Optimization Engine

**Business Logic for Recommendation**

- Amazon Comprehend
- Amazon Lex
- Amazon SageMaker
- AWS DeepRacer
- AWS IoT Analytics
- AWS IoT Defender
- AWS IoT Device Management
- AWS IoT Events

**Planning & Execution**

- Amazon Comprehend
- Amazon Lex
- Amazon SageMaker
- AWS DeepRacer
- AWS IoT Analytics
- AWS IoT Defender
- AWS IoT Device Management
- AWS IoT Events
Key takeaways

**TCS Optumera is a fit-for-purpose product**

- The product fits the process. TCS leverages the deep contextual knowledge and robust domain experiences that spans over decades and over 100+ retailers

- Optumera enables integrated space, assortment, pricing and supply chain optimization powered by 35+ patents, indigenously hand-crafted algorithms in TCS labs in collaboration with premier global institutes

- Microservices based architecture on AWS, helps retailers of any scale to swiftly leverage product features, enables addition of new functionalities for specific business requirements
Thank you

To know more about adopting TCS Optumera, write to:
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