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TCS Algo Retail™ is well-positioned to deliver exponential value through its Cognitive supply chain solution

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Defining Future Business Operations

COVID-19, which came as a black swan in 2020, has opened the pandora's box containing unsolved and unanticipated problems across the retail industry's supply chain function. Considered as a linear system where operational improvement is achieved by addressing the siloed entities, the supply chain is at the cusp of evolving into an integrated ecosystem. Given this situation, TCS offers a cognitive supply chain solution as part of its Algo Retail solutions and offerings.

TCS Cognitive supply chain solution addresses the gamut of functions from demand forecasting to logistics of delivery

Ensuring availability without impacting cash flow, effectively managing the supply chain costs, and improving fulfillment velocity are among the top priorities in the supply chain function. TCS Cognitive supply chain solution addresses the aspects mentioned above among various things that are key to successful supply chain operations. Exhibit 1 provides an end-to-end view of the TCS Algo Retail™ powered Cognitive Supply Chain solutions and offerings.

Exhibit 1: **TCS offers a comprehensive end-to-end cognitive supply chain solution for Algo Retail™**
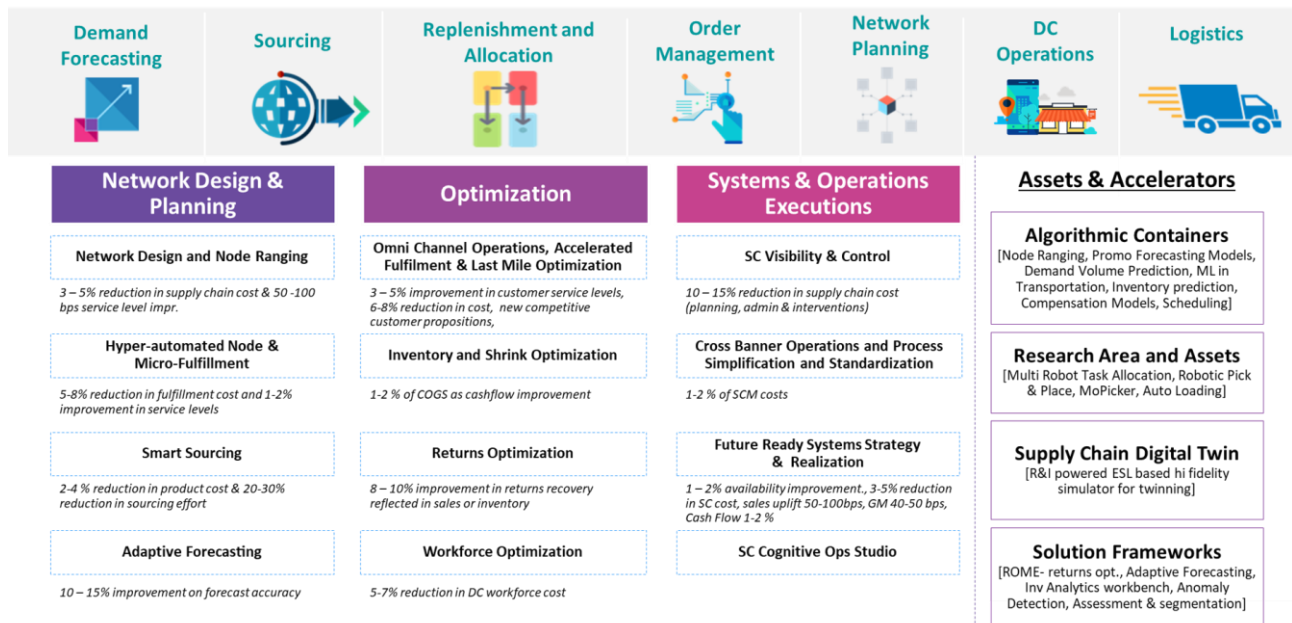
Source: TCS

TCS adopts a "recommendation to realization" partnership model with an innovative and curated consulting-led engagement approach with its clients, starting with identifying the right opportunities to unlock the business potential in the client organization's retail business through its Algo Scan. Algo Scan is a machine first assessment framework to identify and segment business opportunities.

To grow its length and breadth of capabilities in cognitive supply chain solution for the retail industry, TCS has filed for patents in the following areas:

- **Intelligent Replenishment:** System and method for concurrent dynamic optimization of replenishment decision in the supply chain.
- **Dynamic Parameter Tuning:** System and method to dynamically manage retail store replenishment parameters.
- **Peak Management and Accelerated Fulfilment:** System and method for pre-emptive product selection from an inventory.

TCS Optumera™ augments TCS Cognitive Supply Chain powered with Artificial Intelligence for Strategic Advantage

TCS Optumera™ is the AI-powered strategic intelligence and optimization suite for the retail industry. It is a platform that works with multiple structured and unstructured data sources to provide strategic insights across various supply chain activities. TCS Optumera™ drives value through a unique approach that takes a combinatorial algorithmic view towards value chain challenges across merchandising and supply chain resulting in a holistic optimization over siloed optimization. The AI core uses various techniques, including deep learning, reinforcement learning, recurrent neural network (RNN), convolutional neural network (CNN), and agent-based simulations to create strategic insights and recommendations. TCS Optumera's modules include price optimization, promotion optimization, macro space optimization, assortment optimization, and competitive assortment. It is built on a microservices-based architecture that is cloud-ready.

Clients also benefitted from both operational and strategic perspectives from TCS Algo Retail™ Cognitive Supply Chain Adoption

TCS highlighted some of the client success stories from its Cognitive supply chain suite deployment. For example,

- For a leading US-based retailer, TCS re-imagined the supply chain flow by orchestrating 2000+ parameters, realizing multi-billion-dollar benefits
- TCS engaged with a leading e-commerce player to address multi-billion dollar annual shrink problem across the value chain and geographies
- TCS increased the operational efficiency of the supply chain of a North American specialty retailer, realizing $150M+ business benefits

The Bottom Line: The combination of the TCS Cognitive supply chain solution and the TCS Optumera™ provides an enriched solution suite for retailers in their supply chain activities.

AI-driven TCS Optumera™ and TCS Cognitive supply chain, along with TCS Omnistore™ and TCS Optunique™ form a great combination of solution suites to address retail businesses' challenges across the globe. With over 200 customers and 40K + associates and steady growth over the last three years, TCS retail business is positioned to grow well with the steadfast focus on expanding its retail supply chain solutions and setting them for ecosystem play to address synchronized demand and supply planning and connected and transparent logistics.

HFS Research authors

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Ram is based in Bangalore and brings with him over 19 years of experience that spans strategy consulting, business development and market research. He has worked on opportunity growth consulting, issue-based consulting, market research and business development assignments with clients in Europe, North America, Japan and India.

While the financial goal of an assignment ends in either growing the top-line or reducing the bottom-line, the charm is in working with the stakeholders at multiple levels and formulating the most effective, yet rational approach and solutions. This would, predominantly, define Ram's prior roles in companies like IBM, Wipro, Genpact and Frost & Sullivan.

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Tanmoy Mondal is an Associate Director of Research at HFS, identifying global trends in engineering services from both industry & technology perspectives, tracking global outsourcing deals & investments including partnership agreements & R&D announcements in the sector and supporting the domain leads in secondary research, data analysis, PoV's and research writing

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HFS Research introduced the world to terms such as "RPA" (Robotic Process Automation) in 2012 and more recently, the HFS OneOffice™. The HFS mission is to provide visionary insight into the major innovations impacting business operations such as Automation, Artificial Intelligence, Blockchain, Internet of Things, Digital Business Models and Smart Analytics.

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