# TRANSFORMING D2C RETAIL

Building Hyperconnected, Unified and Intelligent Phygital Ecosystems with Tata Communications

# NAVIGATING THE NEW D2C RETAIL LANDSCAPE

## Bridging the Gap Between Expectations and Capabilities

The Direct-to-Consumer (D2C) landscape is undergoing a strategic transformation, driven by shifting consumer behaviors, technological innovation, and evolving channel dynamics. D2C retail refers to brands that sell directly to consumers without relying on traditional intermediaries like wholesalers or large retailers—allowing for greater control over branding, customer relationships, and margins. As acquisition costs climb and margins tighten, operators are under pressure to evolve their go-to-market strategies. Many are turning to AI-powered personalisation, first-party data capture, and vertically integrated supply chains to maintain competitiveness.

Despite all the innovation, many D2C brands are struggling in the wake of intense competition and the demand for greater brand visibility. Every retailer is trying to offer differentiated customer experience, yet the industry is witnessing a decline in customer satisfaction, as highlighted in the latest consumer insights. According to PwC's Voice of the Consumer Survey 2024, only 22% of consumers are satisfied with their customer experience—a clear indicator that D2C brands are struggling to meet evolving customer expectations.

Forrester's CX research also underlines this trend, showing that consumers now expect seamless omnichannel experiences. However, very few retailers believe they have the infrastructure to deliver on this promise. The gap between consumer expectations and retailer capabilities is evident, making it critical for D2C brands to focus on building better, more cohesive customer experiences.

# The Importance of Phygital Experiences in D2C

While digital channels are important, the PwC Survey 2024 highlights that physical stores still play a vital role in the retail journey. An impressive 56% of consumers rely on physical stores for brand discoverability, consideration, and making purchases, proving that brick-and-mortar stores are far from obsolete. At the same time, 47% of consumers use social media for product research, underlining the importance of a robust phygital strategy—blending physical and digital touchpoints seamlessly.

This shift means that phygital experience is not just an advantage; it is essential for brands to ensure that they provide consistent, personalised, and connected customer journeys across all channels. Whether a customer begins their journey in-store and completes it online, or vice versa, the experience needs to be frictionless and cohesive.

Source: Voice of the Consumer Survey 2024 PwC's

# Key Industry Challenges

Despite the demand for omnichannel experiences, retailers face numerous hurdles in transforming their operations to meet these expectations. According to Gartner, some of the primary challenges D2C retailers are grappling with include:

- Lack of connectivity between systems, making it difficult to deliver consistent customer experiences across channels.

- Limited visibility into supply chain and inventory data, affecting real-time decision-making.

- Fragmented customer engagement across platforms, resulting in disconnected and impersonal interactions

These issues are compounded by rising operational costs and increasing consumer expectations, making it harder for retailers to stay competitive without the right digital infrastructure.

# THE D2C REVOLUTION

## Our Vision for a Hyperconnected Ecosystem

Over the years, the D2C landscape has evolved from niche online brands to a dominant force reshaping retail. Enabled by user-friendly e-commerce platforms and powered by social media, D2C brands have leveraged personalised marketing, storytelling, and influencer collaborations to connect directly with consumers. Subscription models and omnichannel strategies have become key growth drivers, while advancements in logistics have unlocked global reach. As consumer expectations for convenience, authenticity, and transparency rise, D2C companies continue to innovate amidst increasing competition, rising acquisition costs, and stricter data regulations.
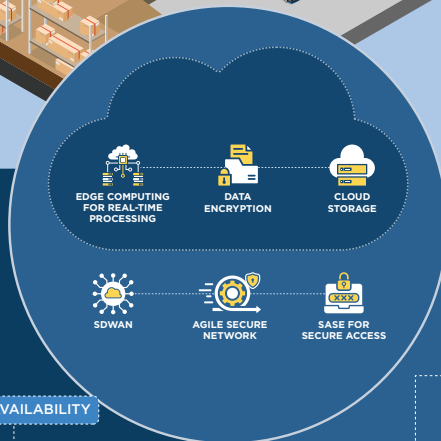
Tata Communications enables D2C retailers overcome operational challenges by building a Digital Fabric that spans their entire ecosystem. This Digital Fabric provides a flexible and secure digital infrastructure, empowering retailers to create a hyperconnected network linking customers, stores, logistics, and employees. By integrating these critical touchpoints into a seamless, intelligent framework, retailers can enhance customer experience, enable real-time decision-making, and improve operational efficiency.

This approach allows retailers to deliver personalised experiences, leveraging AI and data-driven insights across both physical and digital channels, while maintaining the agility to scale their infrastructure as their business grows. Here are few of the technology levers that Tata Communications provides to help D2C retailers thrive.
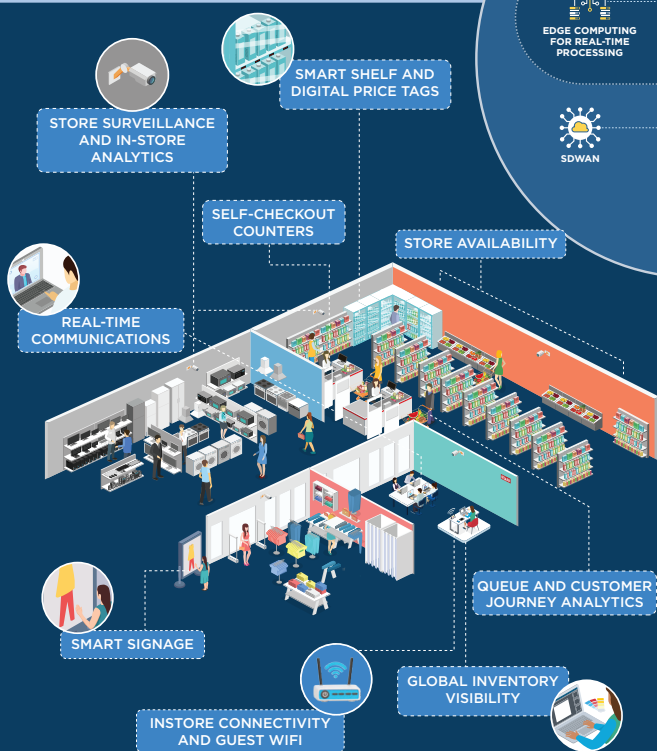
**TATA** COMMUNICATIONS

TATA

**WAREHOUSE**

IoT-DRIVEN
EMPLOYEE SAFETY

IoT/OT AUTOMATION FOR
WAREHOUSES

WAREHOUSE
SURVEILLANCE
AND ANALYTICS

Ai-CLOUD DRIVEN
INVENTORY MANAGEMENT

TRUCK IN-TRUCK OUT

AUTOMATIC STORAGE AND
RETRIEVAL AND SMART SHELVES

EDGE COMPUTING
FOR REAL-TIME
PROCESSING

DATA
ENCRYPTION

CLOUD
STORAGE

SDWAN

AGILE SECURE
NETWORK

SASE FOR
SECURE ACCESS

SMART SHELF AND
DIGITAL PRICE TAGS

STORE SURVEILLANCE
AND IN-STORE
ANALYTICS

SELF-CHECKOUT
COUNTERS

STORE AVAILABILITY

REAL-TIME
COMMUNICATIONS

ABANDONED
SHOPPING CART

VIRTUAL TRYOUTS

OMNI CHANNEL
CUSTOMER ENGAGEMENT

Ai-POWERED
PERSONALISATION

QUEUE AND CUSTOMER
JOURNEY ANALYTICS

ORDER TRACKING

SMART SIGNAGE

GLOBAL INVENTORY
VISIBILITY

LOGISTICS
FLEET TRACKING

INSTORE CONNECTIVITY
AND GUEST WIFI

**SMART STORE**

**ONLINE CUSTOMER EXPERIENCE**

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Technology Lever #1

# SCALABLE INFRASTRUCTURE: POWERING GROWTH WITH NETWORK AND AI EDGE COMPUTING

As D2C retailers grow, Tata Communications provides scalable infrastructure solutions to support increased traffic, geographical expansion, and new service models.

**Store Availability:** Ensure products are consistently in stock and accessible. AI-driven edge computing optimises network bandwidth based on traffic, enabling seamless inventory management and omnichannel experiences. This ensures customers can shop effortlessly, whether in-store or online, without disruptions.

**Global inventory visibility:** Ensure real-time stock tracking across stores, warehouses, HQs, and remote sites. Secure, high-performance connectivity enables seamless omnichannel fulfillment, optimising inventory management, reducing stockouts, and enhancing customer satisfaction with faster, more efficient retail operations across all locations.

**Instore Connectivity:** Edge computing enables data processing at the edge of the network, ensuring quick responses and better customer experiences. AI-powered in-store connectivity optimises bandwidth, ensuring seamless shopping, employee collaboration, and uninterrupted digital services.

Technology Lever #2

# UNIFIED CUSTOMER TOUCHPOINTS: CREATING SEAMLESS OMNICHANNEL EXPERIENCES

Tata Communications helps retailers seamlessly integrate and manage customer interactions across physical and digital platforms. This connected ecosystem ensures that customers experience consistency, no matter where their journey begins or ends.

**Personalised Omnichannel Campaigns:** Retailers can craft synchronised marketing campaigns by leveraging personalised recommendations and promotions driven by customer behavior, seamlessly engaging customers across in-store experiences, social media, email, and SMS.

**Abandoned Shopping Cart:** Retailers can send automated, targeted follow-ups for re-engagement through SMS, email, and push notifications based on customer behavior and preferences.

**Video Commerce:** By integrating shoppable videos across websites, social media platforms, and mobile apps, brands can deliver interactive and personalised omnichannel shopping experiences, creating a unified and engaging customer journey.

**Guest Wifi:** Personalised offers, cross-channel marketing integration, real-time insights, and enhanced in-store experience can enable retailers to boost customer engagement, foster loyalty, increase foot traffic, and drive higher sales.

**Order Tracking:** Retailers can provide transparency through real-time purchase monitoring that enhances customer satisfaction, while personalised notifications with tailored updates enables targeted marketing campaigns that resonate with individual preferences, fostering deeper engagement and stronger customer relationships.

Technology Lever #3

# INTELLIGENT DECISION-MAKING: ENHANCING OPERATIONS WITH REAL-TIME INSIGHTS

By integrating AI Cloud, IoT, and edge computing, Tata Communications empowers retailers to gather real-time data for actionable insights, improving operations and customer satisfaction.

**Inventory Management:** Retailers can leverage AI Cloud and IoT sensors to predict demand trends and monitor stock levels in real time. This proactive approach prevents stockouts, optimises inventory, and ensures seamless availability—keeping shelves full and customers satisfied.

**Sales Planning and Forecasting:** Retailers can leverage video analytics to track foot traffic patterns and integrate real-time purchase data, predicting demand trends with precision. This data-driven approach optimises inventory, enhances customer experience, and drives smarter sales strategies for maximum profitability and efficiency.

**Store Layout Optimisation:** Wi-Fi tracking analyses foot traffic, dwell times, and high-traffic areas, using heat mapping to identify hotspots and underutilised spaces. When combined with sales data, retailers can strategically adjust product placement to align with purchasing trends, enhancing shopper flow and boosting conversions.

**Queue and Customer Journey Analytics:** By detecting foot traffic patterns and identifying congestion points, such as long queues at checkout or service counters, retailers can analyse this data to monitor queue lengths, predict peak hours, and allocate staff effectively, ensuring smoother and more efficient customer experience.

Technology Lever #4

# SEAMLESS COLLABORATION: ENABLING A CONNECTED AND SAFE WORKFORCE

Tata Communications fosters a connected workforce with real-time communication tools that enhance collaboration across stores, warehouses, and offices. These tools also ensure employee safety.

**Real-Time Communication:** Employees can collaborate using integrated platforms for video conferencing, messaging, and file sharing.

*Technology Lever #5*

# ENABLING SEAMLESS CONNECTIVITY IN WAREHOUSES: IOT/OT, EDGE COMPUTING AND AUTOMATION

Tata Communications connects warehouse operations with seamless IoT/OT integration, automation, video analytics, and real-time communication, optimising operations and ensuring employee safety.

**Warehouse Automation:** Real-time connectivity across IoT devices and Operational Technology (OT) systems facilitates automated processes such as inventory tracking, predictive maintenance, and robotic automation, leading to efficient operations.

**Warehouse Surveillance:** Video analytics monitor in-warehouse activities, such as employee movement and inventory handling, offering insights into operational bottlenecks and improving safety protocols.

**Logistics Fleet Tracking:** Retailers can implement real-time logistics fleet tracking, optimising delivery routes, monitoring vehicle health, and tracking inventory conditions, enhancing efficiency, reducing costs, and improving customer satisfaction through data insights.

**Automatic Storage and Retrieval and Smart Shelves:** Retailers can monitor inventory and conditions in real time, enabling instant communication for quicker decision-making. Automated systems retrieve and store products based on demand, optimising warehouse space and enhancing accuracy.

**Truck In-Truck Out:** Retailers can implement truck in and truck out processes by enhancing operational efficiency, reducing costs, and improving safety through real-time monitoring, analytics, and surveillance to optimise resource utilisation and minimise downtime.

**Employee Safety and Connected Workforce:** IoT devices monitor safety conditions in real-time, sending alerts if unsafe conditions are detected. Employees can also use communication platforms to instantly share data between stores and warehouses, ensuring immediate action is taken when needed.

**Technology Lever #6**

# BUILDING INTELLIGENT RETAIL EXPERIENCES: SMART STORES

Tata Communications enables D2C retailers to create intelligent stores using IoT, digital signage, and video analytics to enhance customer engagement and operational efficiency.

**IoT-Enabled Stores:** Smart shelves, digital price tags, and IoT sensors provide real-time inventory updates, optimising operations and improving customer engagement. By detecting irregularities, these technologies help retailers reduce pilferage, prevent stock discrepancies, and ensure seamless store management for a smarter shopping experience.

**Digital Signage:** Personalised advertisements based on real-time customer data create engaging shopping experiences, whether customers are online or in-store.

**Self-Checkout Counters:** Retailers can streamline operations, reduce labor costs, and improve the customer experience by offering faster, more convenient transactions.

**Virtual Tryouts:** Retailers can ensure seamless connectivity for virtual tryouts (Both online and offline), real time data can help retailers understand customer preferences, optimise inventory and improve operational efficiency.

# LEADING BY EXAMPLE: HOW OUR CLIENTS EXCEL

Top companies leverage our expertise to drive innovation, streamline operations, and enhance customer satisfaction, creating a more efficient and engaging shopping experience. Here are a few examples:

## Starbucks

Starbucks elevates customer experience and improves employee productivity with Tata Communications

### Challenge:

Starbucks lacked unified customer data capture, faced inconsistent Wi-Fi experiences, varying store protocols, manual error troubleshooting, and time-intensive setups due to diverse solution providers and manual configurations across sites.

### Solution:

A persona-based approach with Managed Wi-Fi and OTP authentication enables secure connectivity, while Wi-Fi 6, SDWAN prioritisation, zero-touch deployment, and analytics drive efficiency and informed decisions.

### Benefits:

- Enhanced in-store staff efficiency with inventory management, secure payments, order logging

- Customer enjoys a highly secure and high-quality browsing experience; a 'premium' Wi-Fi

- Enhanced customer insights through footfall analysis, customer profiling, and actionable intelligence.

## Trent Retail

Trent Retail Enhances Operations with Scalable, Secure, and Reliable Cloud Solutions

### Challenge:

Trent Retail faced the challenge of rapidly scaling to handle growing data and applications, with the flexibility to manage traffic spikes during peak periods like sales, festivals, and holidays. They also required high security for critical data and controlled maintenance costs.

### Solution:

The solution hosts critical workloads, ensuring high performance, security, and instant scalability. It provides secure, high-speed connectivity between sites and data centers for fast data archiving and billing. Additionally, real-time backups safeguard against data failures, supported by 24/7 maintenance and assistance.

### Benefits:

- Secure private environment with 99.9% availability, enhancing application performance and efficiency
- Instant resource provisioning to support new outlets and rapidly growing data
- On-demand scalability to manage seasonal traffic spikes effortlessly

# Croma

### Challenge:

Facing market share erosion from e-commerce discounters, Infiniti Retail needed to adapt to the digital transformation of India's retail sector. They sought a cloud services provider with the vision and expertise to drive greater business agility and innovation.

### Solution:

Tata Communications delivered a managed hosting service and hybrid cloud solution, incorporating 100Mbps dual global Ethernet links and an MPLS-based VPN to connect stores and data centers in Hyderabad and Mumbai. This seamless transition provided the flexibility and scalability needed.

### Benefits:

- Zero system failures, boosting IT team confidence
- 20% cost savings with a fixed-rate OpEx model, reducing capital expenditure
- Rapid transition completed in two nights, ensuring smooth sales operations
- Stabilised, streamlined, and optimised infrastructure post-migration
- Gained 32 additional productive hours per month

## Online Fashion and Lifestyle Brand

20X improvement in customer satisfaction with personalised messaging on WhatsApp

### Challenge:

The company sought a solution that would enable personalised conversations with customers, allowing them to engage more meaningfully and tailor product recommendations to individual needs.

### Solution:

Kalyera enabled 6th Street.com create personalised message campaigns on WhatsApp

### Benefits:

- 20 times improvement in customer satisfaction
- Jump in customer ratings and reviews by 6 times
- Click-through rate doubled

## American Cosmetic Manufacturer

Improved bookings by 30% with WhatsApp for appointment management

### Challenge:

Frontline teams were primarily focused on managing daily appointments, leaving limited time to provide personalised consultations and recommendations to enhance customer experience.

### Solution:

Using WhatsApp, a channel was created to support self-service management of appointments. Customers receive appointment confirmation and reminders on WhatsApp. They can modify their appointments with a self-service chatbot on WhatsApp. Benefit also used marketing messages on WhatsApp to deliver coupons, sales promotions, client services and news about product launches.

### Benefits:

- 30% increase in bookings attributable to WhatsApp

- 200% growth in YoY sales partially attributable to WhatsApp

- 60% faster customer response time with WhatsApp vs email

## Leading Pharma Giant

Video Analytics boosts revenue by 2%+ per store for a leading pharma retail giant

### Challenge:

A leading online pharma retailer was looking to leverage digital technologies to improve the instore customer experience and operational efficiency. They were looking to tackle challenges such as manpower planning, out of stock conditions and store optimisation as per the customer traffic

### Solution:

A video analytics platform that handled camera onboarding, AI model management and dashboard for monitoring and analytics was delivered.

### Benefits:

- Topline enhancement by ~2.1%

- Reduction in loss of sales during peak hours

- Reduction of operational costs

- Enhanced customer satisfaction

- Insights to build stocking strategies and improve potential profit

# CONCLUSION
## TRANSFORMING D2C RETAIL WITH TATA COMMUNICATIONS

The D2C retail landscape is transforming rapidly. This transformation has been driven by changing customer preferences, access to information and exposure to seamless digital experiences from other brands. D2C brands must create a unified communication approach with customers across technologies and channels to continually succeed in this new marketplace.

Tata Communications is transforming the D2C retail landscape by empowering retailers to create smart, unified, and secure ecosystems. Through "Unified Intelligence", we provide advanced connectivity, intelligent technologies, and seamless collaboration that address the core challenges retailers face today. From personalising customer interactions and unlocking real-time insights to fostering a connected workforce, we enable data-driven decision-making and enhance operational agility. As we continue to innovate, we remain committed to helping retailers meet and exceed customer expectations, driving growth and forging lasting connections in a dynamic market. Together, we are shaping a new era of retail excellence.

## CONTRIBUTORS

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# About Tata Communications

A part of the Tata Group, Tata Communications is a global digital ecosystem enabler powering today's fast-growing digital economy in more than 190 countries and territories. Leading with trust, it enables digital transformation of enterprises globally with collaboration and connected solutions, core and next gen connectivity, cloud hosting and security solutions and media services. 300 of the Fortune 500 companies are its customers and the company connects businesses to 80% of the world's cloud giants.

**For more information, visit us at www.tatacommunications.com
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