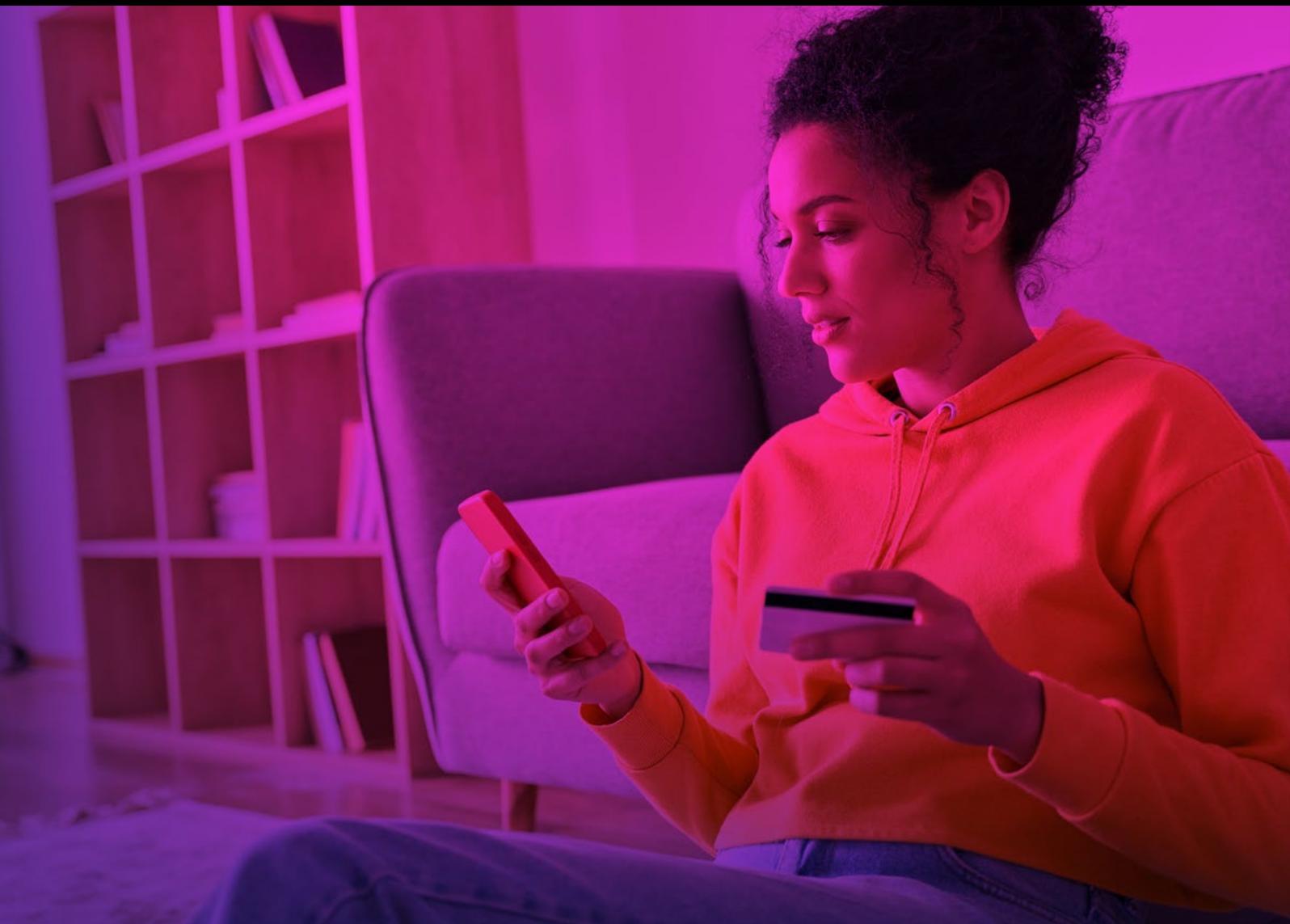


AI-enabled customer journey orchestrations will power sustainable online commerce



Abstract

A quality product is no longer enough to win the loyalty of shoppers making purchases online. Their behaviors have changed, and their expectations from the products they buy are aligned with their personal values, including social and environmental.

Green consumerism is on the rise as shoppers are passionate about the planet and want products from purpose-driven brands that advocate sustainability, making it vital for brands to act quickly to stay relevant and competitive. As such, retailers adopting sustainability practices will influence more sales¹.

Today, the sole responsibility of ensuring sustainability lies on the shoulders of retailers. Present-day ecommerce solutions focus more on personalized customer journey orchestrations but fail to advocate practices that will make customers contribute to a greener shopping online. There are numerous ways to ensure shoppers' purchase behaviors have a greener impact on the planet and promote environmental stewardship.

Sustainability indices can be improved with a responsible customer journey orchestration powered by artificial intelligence for green commerce online. The framework prescribed here aims at predicting shopper behavior and advocating effective means for them to be a part of the sustainability journey and make the planet better through responsible shopping.

Enabling green shopping routine online

Omnichannel customer journey orchestrations through unified commerce platforms can go 'green' by predicting purchase behaviors and nudging changes in shoppers' online routine. An intelligent framework using artificial intelligence (AI) models within or outside commerce solutions can predict, in numerous ways, the possible customer journey orchestrations based on customers' intents and linkages and then recommend a greener way of shopping to drive sustainability.

¹ <https://retaildietitians.com/articles/can-sustainable-business-practices-increase-sales/>

Various forms of cognitive journey orchestration for sustainability

A robust modelling and AI-driven prediction of customer behavior can make shoppers aware of how they can be a part of the overall eco-friendly and sustainability initiatives. The key performance indicators (KPIs) that an effective sustainability-focused journey orchestration should track include:

- Carbon footprint
- Energy consumption
- Savings due to conservation and improvement efforts
- Supplier environmental sustainability index
- Supply chain miles

Green commerce with personalized journey orchestration to drive sustainability can take numerous forms based on the attributes of shoppers and retailers:

- **Ecological shipping orchestration:** Typically, next-day or express deliveries necessitate air travel, which could leave a large carbon footprint. Determining if there is a need for urgent product delivery and suggesting an optimal shipping method to consumers during purchase can help reduce energy consumption.
- **Mass buying of products orchestration:** Shopping for multiple items would require multiple deliveries. This could give rise to the need for multiple modes of transportation to make the deliveries and leave a large carbon footprint. Predicting shoppers' tendency for bulk purchases and consolidating the products through intent identification vastly helps cut down the number of trips required for delivery, thus reducing the effect on the planet.
- **Incentivized purchase orchestration through 'green karma points':** By predicting their behavior, shoppers can be swayed towards purchase practices that drive sustainability. They can be rewarded with 'green karma points' (loyalty points) to promote the practices. They can then use the points to make more eco-friendly purchases online.
- **Eco-friendly catalog orchestration:** Promoting retailers' product catalog with eco-friendly attributes, say 'organic cotton', 'plant-based foods', make shoppers aware about and consume environment-friendly products.
- **Promotional rebates orchestration:** Predicting shoppers' behavior and providing promotional offers, discounts or incentives for purchases that drive sustainability could spur them to be eco-friendly.
- **Gifts purchase orchestration:** Predicting a gift purchase journey, say for a birthday or anniversary, and inducing behavior that makes the purchase on time with normal delivery instead of express service will ensure lesser impact on the environment.

The growing popularity of online shopping has raised environmental concerns. But sustainable journey orchestrations done in an intelligent way can help online shopping become greener. These journeys can be extended to multiple retailers' context and the approach can become a state-of-the-art eco-friendly solution with the ability to make drastic difference to the way shopping is done online and make it more sustainable.

Building real-time, intelligent, responsible green shopping

Green shopping mandates an understanding of shoppers' 720-degree profile, including internal, external, and eco-profile, and retailers' sustainability and selling contexts. Additionally, shoppers' intent in real time with a multitude of edges forms the core tenets of the framework (Figure 1). The data is engineered and aggregated to build a unique sustainability realm context (SRC) model that serves as a foundation for prediction and recommendation of sustainability-focused customer journey orchestrations.

Retailers can leverage the framework for insights into shoppers' behavioral traits and implicit preferences based on their intents and affinity towards purchases. Retailers' sustainability and selling contexts, which includes marketing, offers, orders, logistics, sourcing, and sustainability data, help drive the customer journey orchestration in tandem with their intents. The sustainability realm context model is an aggregated perspective of the derived profile, sustainability and selling contexts that helps predict shopping behavior and prescribe intelligent recommendations of customer journey orchestrations to drive sustainability.

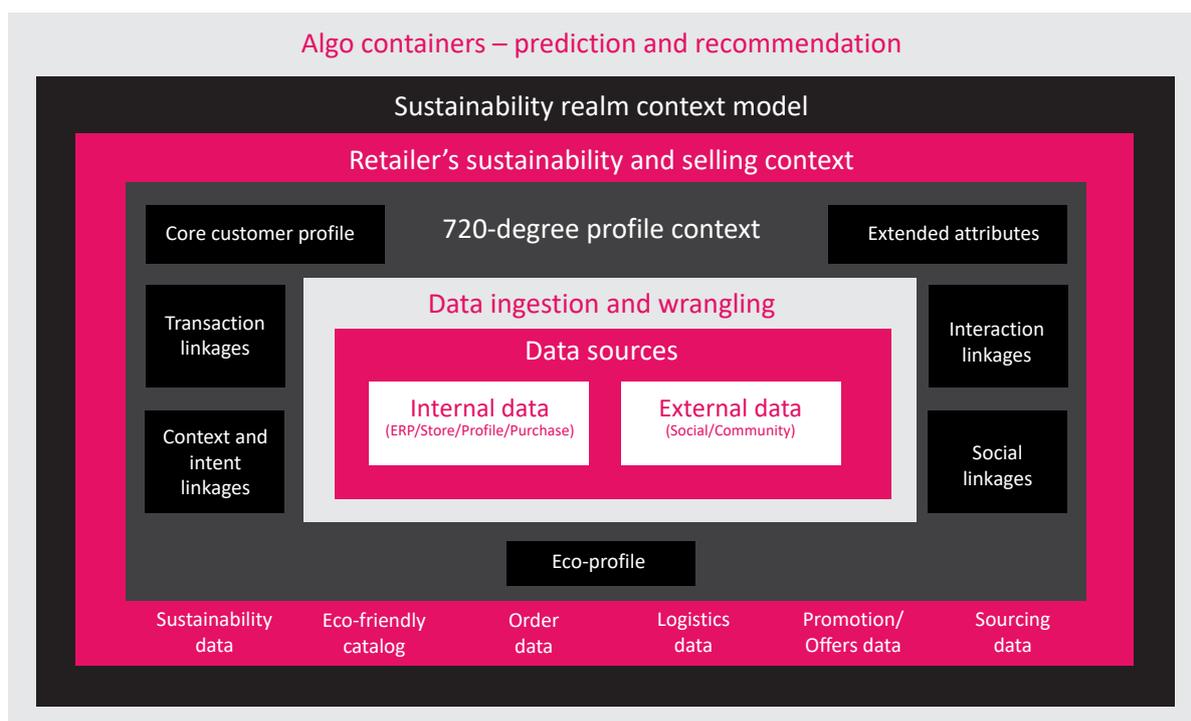


Figure 1: Framework for Building Real Time Intelligent and Responsible Green Shopping

The engineered and aggregated data needs to be continuously updated and ingested into the SRC model to drive synchronized and consistent experiences across touchpoints. AI and machine learning helps to process the complex dataset quickly, abstract the right information by disregarding invalid data and predicting eco-friendly shopping behaviors.

Layered approach for building the journeys

The seamless and personalized customer journey orchestration to promote sustainability can be built using a layered approach by leveraging a comprehensive set of static and derived attributes of retailers and shoppers (Figure 2).

The approach starts with the identification of the unified customer profile information, including internal, social, and eco-friendly profile, and leverages the eco-friendly catalog and product set that the shopper intends to buy. The customer's propensity/inclination set layer determines various intents and transaction linkages, including click streams, past purchases, wish lists, customer preferences and interests, online and store transactions, gift purchases, visit and basket metrics.

The next layer determines the logistics and selling context of the retailer, including the shipping methods, eco-friendly and transportation logistics, sustainability data, offers, promotions and discounts.

The layers are fused together to derive contextualized set of information for the specific shopper's profile that could result in a best value ecological product and shipping data set. AI-ML algorithms are defined to predict the contextualized customer journey orchestration that is more personalized, real time, intent-driven, and responsible green shopping.



Figure 2: Layered approach for building customer journey orchestrations to drive sustainability

Retailers and shoppers can obtain better visibility on environment friendliness with this approach, together drive the sustainability indices for continuous improvement and promote eco-friendly shopping online.

Conclusion

The personalized customer journey orchestrations for green commerce provide a model mutually beneficial for both the retailers and shoppers and a co-created responsibility towards an eco-friendly shopping environment through an intelligent framework and approach. The approach acts as a catalyst for enabling sustainable shopping online and encourages green consumerism. It prompts shoppers and retailers to join hands to drive sustainability KPIs together, which can have a profound impact on sustainability.

The core models prescribed here can be enhanced further for various customer journey orchestrations, which could have a direct impact on the planet. The approach could be smaller in scale pertaining to one customer context but can create a larger impact when applied at a global scale for millions of shoppers across the world and serve one common objective of having a better planet and better health.

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Murali has been with TCS for 28 years. He has extensive experience in all four generations of technology and leads the architecture and technology for the group. Murali, who heads the group's digital growth and transformation initiatives, helps retailers transform their landscape.

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Awards and accolades



Contact

For more information on TCS' Retail unit visit <https://www.tcs.com>

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