

Footprints AI for ESG Objectives

Say goodbye to inefficiencies and stock shortages with Footprints' revolutionary inventory management model. Our model considers the unique consumption patterns of each individual community, making inventory prediction and management more accurate and effective. With Footprints, you'll be able to:

- Predict and plan inventory based on demand prediction and marketing mechanisms.
- Consider all environmental, cultural, media and socio-economic factors in inventory management.
- Increase marketing efficiency by up to 40%.
- Optimize logistics and reduce waste by up to 30%.

The current models used by retailers consider sales history at the store level to predict stock orders and adjust prices for clearance. These predictions are based on various factors such as sales volume and value, product lead time and supplier, transport, and warehousing, purchasing policies, and more. Companies hold their regional and store managers accountable for the accuracy of these models.

However, these current models have limitations as they do not consider new factors such as shifts in seasonality, supply chain disruptions, media-inspired fears and beliefs, monetary policies, ESG policies and objectives, and socio-cultural dynamics. This can result in issues such as overstocking or stock shortages during special events, opening of new stores, and degradation of retail chains.

Footprints offers a new inventory management model that predicts, plans, and manages inventory based on consumer behavior and consumption patterns. This model considers factors such as consumer shopping habits and likelihood to interact with marketing channels and applies the predictions at the store and community level. With this approach, the retailer is able to make informed decisions and reduce waste and improve marketing efficiency and logistics by up to 30-40%.

Current Models:

Current models consider sales history at the store level (for each category and product). Sales predictions are made to determine stock orders. Stocks that do not match sales are put on sale at a promotional price to boost sales. Factors such as sales rate per product (volume and value), the time required to purchase each type of product and supplier, transport times, time required for warehouse entry, warehousing costs, and purchasing policy are also considered. Most companies use these models and hold their regional and/or store managers accountable for the results generated by these models.

Problems with Current Models:

These models, which are based on back-end data, do not consider new factors that have dynamic systems such as the shift in seasons, supply chain crises, media-inspired fear, banks' monetary policies, evolution of the retail maturity index, ESG policies

and objectives of corporations, and socio-cultural factors. This can be seen in three main situations: the opening of new stores where the local community's specificity cannot be considered, large stocks left over after traditional events or empty stores, and the visible degradation of a retail chain.

Footprints' Proposed Model:

Footprints proposes a model that considers the consumption prediction applied to specific behavioral segments of each community in relation to individual stores. The model assesses the future behavior of individuals in a given community in the vicinity of each store based on their likelihood of shopping in-store, shopping online, buying certain products, and interacting with a marketing channel. This inventory management model is applied at the store level and starts from individual consumer profiles, predicting consumption habits down to the level of individual communities and neighborhoods. This means that stock prediction and management is based on demand prediction and marketing mechanisms that can influence demand, considering all dynamic factors such as environmental, cultural, media, and socio-economic factors.

Example:

Without Footprints: Ana goes to the store and buys 5 apples because they are on sale. She eats only 3 and throws the other 2 in the trash because they go bad. The store only knows that 5 apples have been bought and predicts the need for stock based on this information, but it does not have information about the 2 apples thrown away.

With Footprints: Ana is part of a behavioral segment where the probability of each individual in this segment consuming apples at a certain time in the future is predicted. For example, the probabilities of Ana consuming the following number of apples are predicted:

- 1 apple - 100% probability
- 2 apples - 95% probability
- 3 apples - 70% probability
- 4 apples - 55% probability
- 5 apples - 30% probability

The store considers only the probabilities with high values (top third) and decides to order 3 or 4 apples for this consumer profile.

Advantages and Impact on ESG:

Footprints' model has several advantages, including waste reduction for consumers (up to 30%), waste reduction for retailers (up to 15%), increased marketing efficiency (up to 40%), and logistics optimization (up to 30%) for waste management.