

## CASE STUDY

CPG & Retail

# Revolutionizing e-commerce product categorization with LLM (GPT)



## About the client

The company is India's first open network digital commerce platform which dictates specifications to foster open interchange and connections between shoppers, technology platforms, and retailers.



## Challenge

The e-commerce marketplace faced was challenged with managing the variability in category and sub-category descriptions provided by sellers, leading to difficulties in accurate product classification within the marketplace's taxonomy.

Initially reliant on manual tagging, the marketplace later automated the categorization process using a Natural Language Processing (NLP) text classification-based Machine Learning (ML) model. Trained on previously tagged products, the model aimed to accurately classify product categories.



## Approach and solution

Netscribes conducted an audit of the previous solution, identifying key challenges:

- The ever-changing nature of products and categories impacted model accuracy.
- Human Quality Control (QC) and frequent model retraining were required.
- Taxonomy alterations incurred significant costs for re-tagging and retraining.

We proposed a transformative approach integrating the GPT 3.5 language model and Few-Shot prompt loading techniques. This solution utilized dynamic taxonomy, product titles, and descriptions to enhance the accuracy of category predictions.



## Results delivered

The implemented solution led to:

- Streamlined model upgrades and dynamic taxonomy changes
- Reduced time for maintenance and support, enhancing overall operational efficiency
- Despite a slight drop in model accuracy from ~85% to ~78%, the turnaround time for model retraining decreased from ~2 weeks to ~2 days, resulting in substantial cost savings.

**Related reading:** [Catalog scoring and quality seller support for an e-commerce marketplace](#)





## Client benefit

Integrating GPT and dynamic taxonomy, Netscribes not only streamlined e-commerce product categorization but also drastically reduced model retraining time. The result? Enhanced operational efficiency and substantial cost savings for the e-commerce stalwart.

Explore how Netscribes can take your product categorizations from good to great enabling better product discoverability through our robust [Catalog Management solutions](#).

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