HBS

Shortcut the Sales Cycle: Machine Learning Product Recommendation Engine

To help an operational parts wholesaler improve sales efficiency and identify new opportunities, HBS custom-developed a **machine learning product recommendation engine** that **speeds up the sales process** by **delivering precise, data-driven insights** and **prioritizing high-value opportunities**.

EXECUTIVE SUMMARY

THE CHALLENGE

Sales teams spent too much time relying on reports and gut instinct, slowing down the sales cycle and missing opportunities.

THE SOLUTION

HBS built a machine learning recommendation engine that turned sales data into actionable, high-probability product suggestions.

THE OUTCOMES

- Faster sales cycles
- Increased precision
- Smarter engagements
- Ongoing value

Industry: Operational Parts Wholesaler
Employees: 400+
Years in Business: 75
HBS Service: AI Predict

The Challenge»

Sales teams—especially those at small and medium-sized businesses—want to deepen client relationships, provide a better customer experience, and drive more sales. And one of the best ways to do that is pitching the right products to the right customers—but that's easier said than done.

Too much time is spent juggling reports, intuition, and time-consuming research—only to risk missing opportunities. That time is wasted searching for answers instead of selling.

The Solution»

To bridge this gap, an HBS client—one with a massive inventory full of thousands of different products—asked us to develop a product recommendation engine—built with machine learning—that turns their already existing sales data into actionable insights for their sales team.

Using principles like collaborative filtering and customer clustering, this tool provides targeted recommendations to account managers. The result? Time saved, precise sales, and smarter customer engagements that drive results.

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How a Product Recommendation Engine Works

This solution works much like Netflix or Amazon's recommendation engine.

Just as those platforms suggest shows or products based on what similar users enjoy, **our product recommender system identifies high-probability sales opportunities by analyzing the behaviors and needs of similar customers.**

Grouping Similar Accounts
We began by working with the client to identify key customer attributes—like purchasing history, business needs, and industry verticals. The system then clustered customer accounts based on those characteristics, creating a roadmap of relevant product recommendations tailored to each segment.

Learning from Other Accounts
Once accounts were grouped, the system analyzed which products and services similar customers were buying. If a product succeeded with one account, it was recommended to others in the cluster, giving account managers proactive opportunities.

Simplified Recommendations
Instead of spending hours researching what to sell, the client's sales teams received a list of prioritized opportunities. This allowed them focus on what they did best—selling.

> *This is not reactive sales; it's **proactive** and **predictive**. Instead of having someone spend a lot of time and effort doing research, the recommendations are already right there—**it's a shortcut to selling**.*

Max Lacy
HBS AI Engineer

The Business Value»

This recommender engine enables account managers to act strategically, sell faster, and deepen client relationships. Key benefits include:

1

Time Savings
Research that typically takes hours is now automated in seconds.

2

Precision Targeting
Account managers can focus on high-probability opportunities instead of guesswork. Additionally, the model highlights areas that have been previously overlooked, providing visibility into account growth.

3

Dynamic Intelligence
Recommendations are tailored to each customer based on multidimensional insights, ensuring the right products are prioritized for every customer.

4

Stronger Outcomes
With cleaner data and predictive insights, deals are closed faster and customer trust is strengthened.

What's Next?

Because this system was—and is—designed to evolve as it updates with new purchasing patterns, business needs, and account data, its recommendations become even sharper and more effective. With each customer interaction, the model learns and adapts, providing sales teams with the most relevant intelligence.

Enterprise-grade capabilities in a scalable, cost-effective package. Get *actionable*, *data-driven insights* so you can *compete*—and *succeed*—on a larger scale.

A Sales Shortcut You Can Count On

Contact us at hbs.net or email inquiry@hbs.net to learn more.