

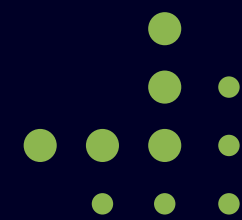
USING AI FOR **PRICE**
OPTIMIZATION
IN SYSTEMS,
APPLICATIONS & PRODUCTS

#FindabilitySolves



THE PROBLEM

Increasing earnings is one of the top, if not the top, priority for all businesses. And one of the key steps to this is price optimization. So was the case for a leading manufacturer of microelectronic components who wanted to optimize SKU-level price points for selling to trade (distributors). The client wanted to optimize their quotes approval and pricing decisions by leveraging advanced analytics integrable with their SAP-HANA databases and other enterprise SAP installations. The price prediction algorithm developed by the client had unresolved issues (bugs) resulting in long processing times. A more efficient, AI-powered system that would enable them to decide whether an incoming quote should be accepted and the quantity to be sold was needed. Findability Sciences developed a configurable middleware to integrate the client's SAP-based enterprise systems with Findability.ai and provide the client with a system to optimize their SAP environment hardware (memory), with the execution time for predictive analytics reducing from 24 hours to 1.5 hours.





THE SOLUTION

Findability Sciences developed a middleware of custom SAP application connectors and SAP BAPI to enable communication between the client's SAP systems and the Findability.ai technology layer. The predictive algorithms were developed in Python and implemented with the help of in-memory processing in the SAP-HANA database.

Connectors from the SAP Data Hub Pipeline Modeler were used for data acquisition and results extraction from the SAP Data Intelligence layer.

The predictive modelling results were integrated with the client's SAP analytics cloud to generate business intelligence reports.



Following were the use-cases for which predictive AI algorithms were developed:

- **Win-rate:** Predicting the probability of the client winning an incoming 'request for quote' (RFQ).
- **Capture-rate:** A measure of the sales ability of a customer/distributor, the capture rate helped the client decide what quantities of the product they ought to sell to a customer.
- **Resale price:** Recommending the price at which a distributor should sell to the end customers
- **Optimal quoted price:** Predicting the optimal quotation price that would improve Bourns' margin.



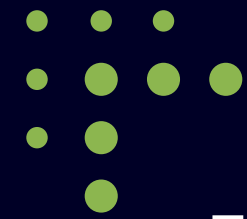
THE SUCCESS

The client enhanced their SAP based data and analytics environment using AI-powered predictive modelling and optimized their SAP installation (memory), with scripts execution time **reducing from 24 hours to 1.5 hours**. Results were integrated with BI-layer in SAP, helping business users make near, real-time decisions. In the short term, the project allowed the client to realize 'capability' ROIs such as faster implementation of predictive AI in SAP environment. The ability of the client to utilize the prediction results in daily operations would be key to increased revenue.



The effectiveness of predictive AI models was measured through metrics such as accuracy (for win-rate) and mean square error (MSE) (for capture rate and price optimization). The win-rate models were up to **98% accurate** (when tested against a validation dataset) and the mean square error ranged from **0.04 to 0.06** for capture-rate and price optimization models.





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