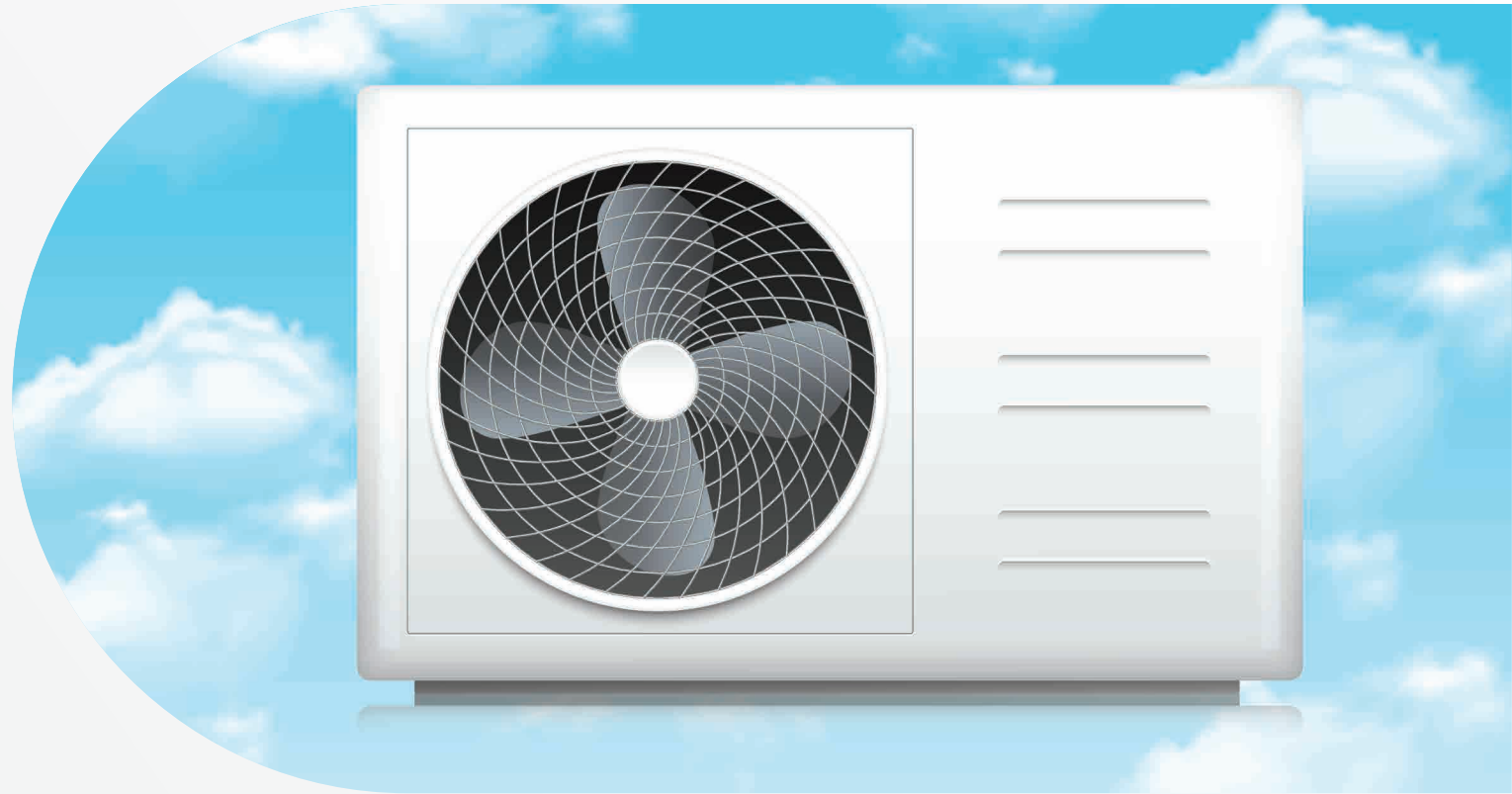# Case Study

Business Intelligence & Augmented Analytics

Smarten Analytics Case Study: Implementation for Largest Global Air Cooler Company in India

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Case Study

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Client

The Client is the largest global manufacturer of Air Coolers. The Client is an India-based Multi-National Company with a presence in over sixty (60) countries. As the market leader, this enterprise enjoys a prime position in the residential, industrial and commercial market segments and its brand is considered synonymous with cooling products in the global market. The Client is a market disrupter in what is a diverse and poorly organized sector and it has set the market benchmark with 201 trademarks, 64 registered designs, 15 copyrights and 48 patents, thereby setting the gold standard for air cooling in the global market.

The Objective

The Client manages a variety of product manufacturing initiatives and distribution along with services, and its transactional data has grown in volume and complexity creating a need for improved data clarity and reporting.

The Client has traditionally used ledgers and Excel-based reporting and wished to select a self-serve, user-friendly solution to consolidate data from disparate databases and spreadsheets in order to automate and validate report generation and data analytics from its large, complicated data repositories for trend analysis and critical alerts.

Challenges

- Data consolidation and data quality.
- Integrate data and provide access within a single environment.
- Harness data volume for report consolidation.
- Report rendering performance and optimization.
- Ensure accurate data source transfer.
- Address previous dependence on manually managed Google sheets and Excel data.
- Connect and identify root causes of issues based on Key Performance Indicators (KPIs).
- Provide a platform for business users to receive reports from a single source.
- Eliminate the need for trained manpower to manage and develop BI solution.
- Manage tables and intuitive visual representations.

To overcome these challenges, the Client wanted a powerful analytical solution built on industry-standard architecture to analyze data across all data sources. The Client wanted a browser-based system that could be accessed from any location, and any device, to answer all business and time-critical questions,

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and a solution that would help it evolve with assisted predictive modelling, to improve planning and forecasting, and make data-driven decisions.

The Solution

After evaluating a range of options from various vendors the Client team selected Smarten Augmented Analytics. Comprehensive proof of concept was developed by Smarten team on the Client sample data which allowed the Client team to analyze the solution and verify the fulfilment of functional and technical possibilities. The Client assessed Smarten self-serve features, simplicity of use, compatible architecture, and scalability and selected Smarten as its BI solution to support its users and its BI practice division.

The Smarten team designed the meta-data structure and provided support to the Client team for Extraction, Transformation, and Loading (ETL) by analyzing the data, cleaning and structuring the data, and migrating reports from Excel and Google Sheets.

Smarten was integrated with SAP Hana and MySQL, acting as a staging data server, and with CSV files, Google Sheets and Excel sources.

The Smarten team provided technical training for administration, data source connectivity, creation of datasets and best practices for BI Users. Periodic hands-on training programs were (and will be) conducted on a periodic basis, as and when required.

Implementation was a joint effort between the Client Data team and the Smarten team.

Smarten Augmented Analytics was deployed to cover crucial modules of Client data sources, e.g., Collection, Sales, Finance, Services, and Field Call Rates Analysis, Dealers Enrolment, Geographical Analysis and Sales hierarchy overview.

Technology & Platform

Server	: Intel Xeon CPU-E5 (8 Processor) X 64 bit (On Premise)
O.S.	: Windows with 64 GB RAM (On Premise)
Cloud	: AWS 'm5.4xlarge with 64 Gb memory and 16 core' instance
Applications	: Google Sheets CSV/excel files for different modules
Backend (Database)	: Staging – SAP Hana, SQL Server and MySQL

Case Study

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Key Business Intelligence Objects Implemented Include:

Sales Overview

- Base KPIs:
  - Sales
  - Targets
  - Collection

- Current Year vs Last Year Target
- Current Year vs Last Year Achievements
- Collection Growth
- Sales Growth
- Quarterly Sales Trend
- Month on Month trend for Target vs Achievement for current and previous year
- Geometric Regional Analysis on Zone, State, District Hierarchy and Grade Based Alerts.

AU and Finance

- Financial Ratio

- Cont. % Trend Line
- Cost and Contribution Analysis
- Working Capital
- CODB
- AR/AP Days
- Trade Receivable Ageing
- Top 15 Receivable
- Top 100 Customers
- Trade Payable Ageing
- Warranty Charges
- Freight Cost
- Product wise Gross Sales
- Inventory Ageing
- Stock Analysis
- Inventory vs Target

Services and FCR

- SLA Calculation
- FCR check per product
- FCR check per part

- Service resolution analysis
- Feedback check and trend

GST Sales BI Dashboard

- Collection Dashboard
- Collection MIS
- Billing Quantity and Value Report
- Primary Network
- Pending Network
- Secondary Sales
- Secondary Sales Comparative Report
- Secondary Sales Product-wise Report
- Dealer Enrolment
- Town Coverage
- Bottom-Up (In Quantity)
- Bottom-Up (In Value)
- Bottom-Up Target Achievement
- Azadi Offer

Service BI Dashboard

- Cooler age wise call analysis
- Parts Replacement
- Non-Part Replacement
- Closed call TAT analysis
- Cancelled calls
- Percentage of SDC NDC Closed call

Logistics BI

- Primary Freight
- Secondary Freight

The Smarten Team Role

As a manufacturing company, it is extremely important for the Client to track, evaluate, and monitor project success through robust analytics, flexible views, and access rights management. The Smarten team helped the Client structure its data and establish a corporate Business Intelligence and Analytics system, taking analytics beyond a simple reporting tool.

Case Study

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As part of the project approach, the Smarten team performed numerous tasks and activities, including:

- Understanding various data sources
- Understanding current reporting structure and flow
- Functional and operational specifications
- Designing meta-data structure for datasets
- Working with the Client team to design and develop ETL processes and staging database
- Optimization and performance monitoring and maintenance
- Conceptualization, design, and development of dashboards, KPI, reports
- User acceptance testing (UAT)
- Go Live Support
- BI concepts and best practices sessions
- Technical training
- Administration training
- Business analyst training
- End user training

Conclusion

The Smarten Augmented Analytics solution allows the Client users to interact with data to identify overall profitability at various levels in the organization. It also allowed the Client team to measure tactical and operational results at a summary level, and at a detailed level for an individual task, or a group achievement.

Key Benefits and Deliverables:

- Consultancy for understanding and designing sales and transactional analytics across functional departments and data cleaning and structuring
- Centralized access to information from diverse data sources, through interactive graphical and ad-hoc analysis
- Defining common themes and designing user friendly Management Dashboards
- Compiling, structuring, and harmonizing various modules like Sales, Collection, Services, Finance, etc.,
- Exceptions and alert analysis for monitoring performance against budget allocated for each project
- Automating all operational reports with pristine quality data
- Training IT staff, power users and end users

- Low cost of acquisition, short rollout time, and less training results in lower TCO
- User-friendly interface reduces burden of ad hoc queries to IT team
- Enterprise architecture with zero footprint browser interface ensured rapid rollout across various locations to many users
- Responsive user interface allowed users to access the solution with all popular smart phones, tablets, and other mobile devices

Provides Mobile App access for all BI dashboards and reports for portability and on-the-go report access. The Mobile App also allows users to share reports in various formats over diverse mobile platforms and applications.

The Smarten team initially executed an on-premises installation Lof the solution and followed this with migration to AWS 'm5.4xlarge with 64 Gb memory and 16 core' instance. The Smarten team provided the Client with cloud and application management services for the Smarten application.

With the selection and implementation of the Smarten Augmented Analytics solution, the Client has achieved its goal of creating a centralized analytics system that is accessible and adds value at all levels of the organization. The Smarten intuitive interface allows users to make the most of available data and to effectively manage their resources, revenue, procurement, business operations, manpower allocation etc. It supports the Client team in tracking organizational performance, to reduce cost and increase the profitability of each department, without compromising quality.

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