Case Study

Business Intelligence & Augmented Analytics

Smarten Augmented Analytics Case Study: Implementation for India-Based Restaurant Chain

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Client

The Client is among the top five Food and Beverage (F&B) companies in India with a chain of several leading restaurant brands, and is known for being a trailblazer in its field.

The business is dedicated to Experiential Dining and has grown at a breakneck pace, expanding into fine and casual dining. The Client currently owns or manages more than sixty-five (65) restaurants, cafés and bars in more than 15 cities across India, including Delhi, Mumbai, Bangalore, Pune and Chandigarh.

The Objective

With its ever-expanding portfolio of restaurants and customers, and ambitious expansion plans across India, the Client business was challenged by the sheer volume of transaction data and quality issues, and its disparate data sources posed a major challenge for the analytics team. The Client has an analytics division, but even with this focus, data quality, data volume and timely trusted reporting was a challenge.

The key objective was to automate and validate report generation from its very large POS data and other data sources which includes spreadsheets. The Client wished to deliver quality data reporting, data consolidation, and timely alerts to the business users.

Challenges

- A very large POS dataset based on the number of bills generated per day (>60k records per day)
- The initial staging data was in Postgre SQL, which was migrated to Oracle and then to MySQL
- Data consolidation and data quality from MYSQL and Excel files
- Data volume and consolidation of various data sources including spreadsheets
- Dependency on data prepared manually in spreadsheets
- Report rendering performance and optimization
- Defining KPIs and identifying root causes for performance
- Transforming business user culture from spreadsheets to interactive visualization
- Providing single reporting and BI solutions for business users across India locations

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

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The Solution

- A comprehensive proof of concept was developed by the Smarten team on Client sample data
- The Smarten team performed data extraction, transformation, and loading (ETL) and developed a dashboard and KPIs.
- Three (3) yrs. of performance comparison on a single screen with slice and dice, drill down and drill through to find root cause for performance issues
- Power user, administrator, and end user training

After evaluating a range of options from the BI team within the organization and from other vendors, the Client team selected Smarten Augmented Analytics. The Smarten solution helped the Client team was able to analyze and verify the fulfilment of functional and technical possibilities with self-serve features, simplicity of use, compatible architecture, and scalability. The Client chose Smarten Augmented Analytics as its BI solution to support its BI practice division and its end users.

Smarten was integrated with MySQL staging data server wherein data is staged from disparate data sources, transformed, and cleaned to improve data quality.

The Smarten team delivered technical training for administration, data source connectivity, creation of datasets and best practices for all BI Users. Periodic hands-on training was and will be conducted on a periodic basis, as required.

Implementation was Executed by the Smarten Team.

Smarten Augmented Analytics was deployed to cover crucial modules of Client data sources, e.g., Product Analysis, Sales, Cross Selling and Upselling, Geographical Analysis and Sales hierarchy overview.

Technology & Platform

Server	: Intel Xeon CPU-E5 (12 Processor) X 64 bit
O.S.	: Linux with 64 GB RAM
Applications	: iDine POS
	CSV/excel files for different modules
Staging Database	: My SQL

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Key Business Intelligence Objects Implemented Include:

Sales Dashboard

- 3 years of data comparison by week, month trend, and variance for the base KPIs:
  - Sales Overview
  - Mix
  - Overall
  - Daily
- Month on Month Sales for 3 years, growth comparison to previous year and achievement compared to the target sales.
- Weekly Sales, Growth and Achievement.
- Weekly Bill per Day Analysis for 3 yr. comparison with Growth and Achievement.
- Weekly Amount per bill Analysis for 3 yr. comparison with Growth and Achievement.
- Weekly Item per Bill Analysis for 3 yr. comparison with Growth and Achievement.
- Weekly Revenue per Item Analysis for 3 yr. comparison with Growth and Achievement.
- Dine-in Delivery comparison with 3 yr. data and various filters.

- Weekday and Weekend Sales comparison.
- Daypart sales.
- Overall Report with the branch sales, growth and achievement.
- Daily Sales report to check everyday sales comparison.

Item Analysis

- ➢ Top Bottom
- ➢ Category
- ➢ Cross Sales
  - Item Qty, sales, Avg. Sales, Discount Analysis with top bottom rank
  - Multiple level Category Wise Qty, sales, Avg. Sales, Discount Analysis with top bottom rank
  - Cross Selling of item to identify most sold item together.

Discount

- Monthly Discount and Net Amount Analysis
- Branch Wise Discount Year to Date Analysis

Delivery

- ➢ Delivery
- ➢ Delivery Mix

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- Month to Month Sales Analysis by Current Year, Previous Year and PPY
- Year to Date Sales Analysis by Current Year, Previous Year and PPY
- Monthly Bill per Day Analysis by Current Year, Previous Year and PPY
- Year to Date Bill per Day Analysis by Current Year, Previous Year and PPY
- Monthly Average Price per Bill Analysis by Current Year, Previous Year and PPY
- Year to Date Average Price per Bill Analysis by Current Year, Previous Year and PPY
- Monthly Avg. Item per Bill Analysis by Current Year, Previous Year and PPY
- Year to Date Average Item per Bill Analysis by Current Year, Previous Year and PPY
- Monthly Avg. Revenue per Item Analysis by Current Year, Previous Year and PPY
- Year to Date Average Revenue per Item Analysis by Current Year, Previous Year and PPY
- Delivery Sales out of Total Sales
- Delivery Sales out of F&B Sales
- Day Part Total Mix Analysis

The Smarten Team Role

Every restaurant chain business must 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, going beyond simple reporting to deliver true analytics with crucial data insight and clarity.

As part of this project, the Smarten team engaged in the following tasks and activities:

- 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 process
- 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 practice sessions
- Technical training
- Administration training

- End user training
- Data validation support

Conclusion

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

Client users are now able to receive scheduled reports delivered in a timely manner through Smarten Augmented Analytics. Implementation and Smarten integration with MySQL staging. eliminates the requirement for Excel reporting and manual data processing.

Key Benefits and Deliverables:

- Consulting for understanding and designing sales and transactional analytics, across functional departments and data cleaning and structuring
- Centralized access to information from disparate data sources, through interactive graphical and ad-hoc analysis

- Defining common themes and designing user-friendly Management Dashboards
- Exceptions and alert analysis for monitoring performance against budget, allocated for each project
- Training to IT staff, power users and other end users
- Low cost of acquisition, short rollout time, and less training result in lower total cost of ownership (TCO)
- User-friendly interface reduces burden of ad-hoc queries to IT team
- Enterprise architecture with zero footprint browser interface ensures rapid rollout across various locations to many users
- Mobile App interface allows users to access the solution with all popular smart phones and tablets.

The Client has achieved its goal of creating a centralized analytics system that is accessible at all levels of the organization. The Smarten intuitive interface allows users to make the most of available data and effectively manage resources, revenue, procurement, business operations, manpower allocation etc. It supports analysis and clear visualization of organizational performance to reduce cost and increase the profitability of each department, while maintaining and improving quality standards.

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