

D&A TRANSFORMATION TALES

# Redefine Data Management Landscape with Data Consulting Solutions



## BACKGROUND

The client, a leading retail brand in the US, was facing multiple challenges in managing their data infrastructure. Their data was redundant and not clean, making it difficult to map sources to target data, leading to data inconsistencies and hindering the organization's ability to gain insights from their data. The lack of proper documentation for various data sources made it challenging for the client to manage and integrate their data effectively. Here are some major challenges that facilitated this business opportunity:



## BACKGROUND

- Lack of proper documentation for various data sources
- Challenging for the client to manage and integrate their data effectively
- The client's data volume was too high for incremental load, making it difficult to manage both historical and current data efficiently
- The client received data for merge/overwrite/append that was not easily identifiable
- Identity and secure access from external resources, raising concerns about data privacy and security.

To address these challenges, the client needed to migrate data from various sources (files, DD, stream) to build a data warehouse in Azure Synapse. They required a unified data platform to serve as a single version of truth for reporting requirements and wanted to pull data from Azure Synapse for BI reporting and dashboards, enabling them to make data-driven decisions. Moreover, the client needed to handle both historical and ongoing data appropriately, with daily, weekly, and monthly loads scheduled and monitored.



## THE SOLUTION

Our data consulting services helped the client address their data-related challenges by adopting a comprehensive approach our data experts proposed as the most promising solution for the presented challenges. As suggested, the client adopted Azure Cloud as their enterprise cloud platform and the following capabilities were executed for the client:

- **Data Migration:** built a data warehouse in Azure Synapse for orchestration and data ingestion. During data migration, our experts made sure data was moved efficiently and accurately as explained to the client's business team.
- **Data Processing and Storage:** Azure Data Lake Storage was used to store raw and delta data. Raw data was processed through Databricks, and delta data stored again in the Data Lake. All the notebooks of Databricks were made generic and reusable, ensuring that ETL processing and writing data into the data warehouse was efficient and consistent.
- **Single Version of Truth:** A unified data platform was established to serve as a single version of truth for reporting requirements. This ensured that all data used for reporting was consistent and accurate.
- **BI Reporting and Dashboards:** Data from Azure Synapse was pulled for BI reporting and dashboards, providing the client with valuable insights into their business operations. The Azure synapse Data was used to visualize the BI report.
- **Data History and Ongoing Management:** The client's historical and ongoing data was handled appropriately, with daily, weekly, and monthly loads scheduled and monitored. This ensured that the data was always up-to-date and accessible when needed.



## TECHNOLOGY SNAPSHOT

- Azure Cloud Platform
- Azure Data Factory (ADF)
- Data Lake Storage
- Databrick
- Azure Synapse
- Azure Active Directory (AAD)
- Azure Key Vault
- Azure Monitor



## BUSINESS BENEFITS

- Improved Data Quality and Data Accessibility
- Robust data security and privacy measures
- Ensured compliance with regulatory requirements
- Implementation of data-driven strategies optimized business processes and improved overall performance
- A unified data infrastructure with advanced analytics capabilities led to increased operational efficiency





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**USA**  
+ 1 630 368 0970

**SINGAPORE**  
+65 3163 3050

**INDIA**  
+91 44 6740 4000

**BELGIUM**  
+ 32 3 204 1942

**NETHERLANDS**  
+ 31 (0)30 800 92 16

**POLAND**  
+48 58 732 77 71

**MEXICO**  
+52 222 980 0115