DAMG 6210 - DATA MANAGEMENT AND DATABASE DESIGN

Project Proposal and Idea

Power & Utilities Distribution Management System

Supply Chain Management system for an electric generation and distribution company

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Background

Supply Chain can be seen in every product, procurement, or service that we get today. Despite the increasingly intense competitions, companies in this domain are still oblivious to the all-encompassing potential of Database management systems. Additionally, the key to enhancing supply chain processes lie in integrating the colossal amount of data available to these organizations and then deriving valuable business intelligence from these. At the most fundamental level, supply chain management consists of the management of flow of goods/services, data and finances related to a product or service from the procurement of raw materials to the delivery of the service at its destination.

For our project, we aim to build a centralized database which consists of all the data pertaining to an electric generation and distribution company viz-a-viz Customer Data, Asset Data, Outage data, Billing data, Metering data, Preventive maintenance data, Repair data, Crew data etc. We aim to create an intricate linked data lake with all these data which can be queried with ease and used to create valuable visualizations which can be used to optimize the supply chain and consequently, will translate to monetary gains for the company and immense satisfaction for the customer. This will be a breakthrough in the current legacy systems and decentralized and redundant data storage mechanisms used by the age-old organizations in this domain.

Mission and Objectives

⇒ A one stop shop for all the information about the entire supply chain available to the organization leadership at a single glance.

⇒ Seamlessly integrating data from various systems such as Outage Management System, Crew Management System, Equipment management system, Billing system, Customer database, Mobile Dispatch system and Weather data in a secure and ensure availability, consistency, integrity, and durability of data.

⇒ Determining metering patterns and billing amounts to determine customers who need help paying bills.

⇒ Identifying old assets and equipment that need replacement or maintenance.

⇒ Planning and preventing outages in the event of adverse weather events.

⇒ Effectively dispatching repair crew to affected area avoiding long outages and hence keeping the customer satisfied.