



# XN Analytics Project Examples

## **Data Warehouse Research & Recommendations**

- Business Problem:** A company is seeking completion of a short term data warehouse project vital to optimizing the way company data is stored and analyzed. The company currently does not have a data warehouse, which is impacting their ability to maintain accurate data and perform accurate and detailed data analysis, and therefore needs a proposal for a data warehouse solution. Proposal should include why selected data warehouse is the best solution, estimated costs for warehouse, and estimated time to implement, and any other implications or concerns.
- Deliverable:** The deliverable the group of students provided enabled the company to select a data warehouse tool that best fit their data collection and storage needs. Based on proposal, subsequent student teams completed data visualization projects for the sponsor and created data dashboards using the data stored in their newly created data warehouse.
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## **Data Analytics & Econometrics**

- Business Problem:** A business requires a systematized approach to collection of structured and unstructured data and visualization of data insights that help organizations understand social determinants for health from consumer shopping perspective. The company wants to construct data warehouse and determine data sources. Data may not be directly available but when aggregated from multiple data sources, especially from merchant shopping behavior, the hypothesis is that insights begin to emerge. Currently, the company uses dummy data to build out econometrics model.
- Deliverable:** Students delivered a completed data warehouse in SQL. This easy-to-use data analytics engine allowed the sponsor company to understand granular aspects of social determinants of health, including a recommendation engine which allowed company to recommend services for caregivers based on needs. Students used Tableau, R, SQL, and Python to complete the project. This allowed the company to aggregate their data more efficiently and begin to build both dashboards using Tableau and predictive models using Python to better visualize their data and see trends in customer behavior.
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## **Healthcare Provider Portal Data Analysis**

- Business Problem:** A start-up working to change service tracking for home healthcare organizations wants a two-step verification process for service time and task duration of care providers in order to increase provider efficiency and ensure patient safety. Their app utilizes a scanning process accessible through care providers' smartphone cameras to track and verify care appointment records mandated by the federal government.
- Deliverable:** Students examined data stored in MySQL, cleaned and organized the data in a data warehouse, analyzed data for trends, and identified several useful correlations in data that allowed the start-up to improve the overall look and functionality of their healthcare portal.