ACCT414 G2 (SMU-X)

ACCOUNTING ANALYTICS CAPSTONE

GKE CORPORATION LIMITED – WAREHOUSING AND LOGISTICS COMPANY

PROJECT STATEMENT

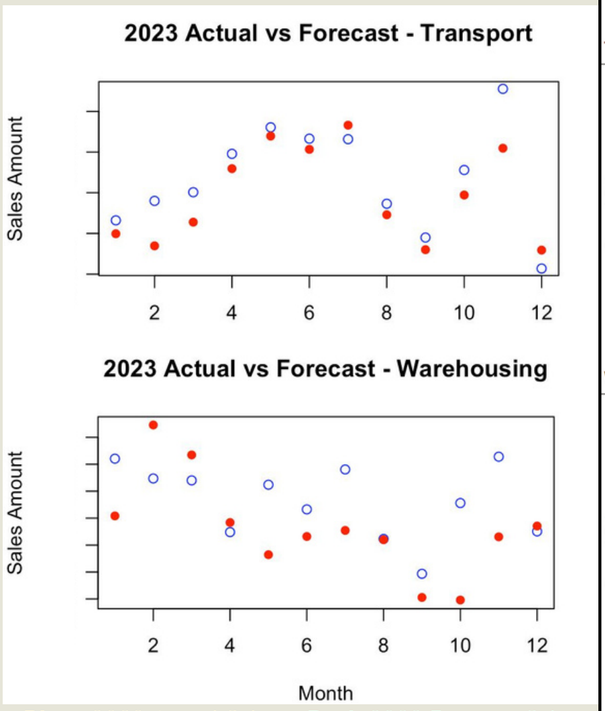
How might GKE increase their sales in their transport and warehousing segments by adopting data analytics?

BACKGROUND

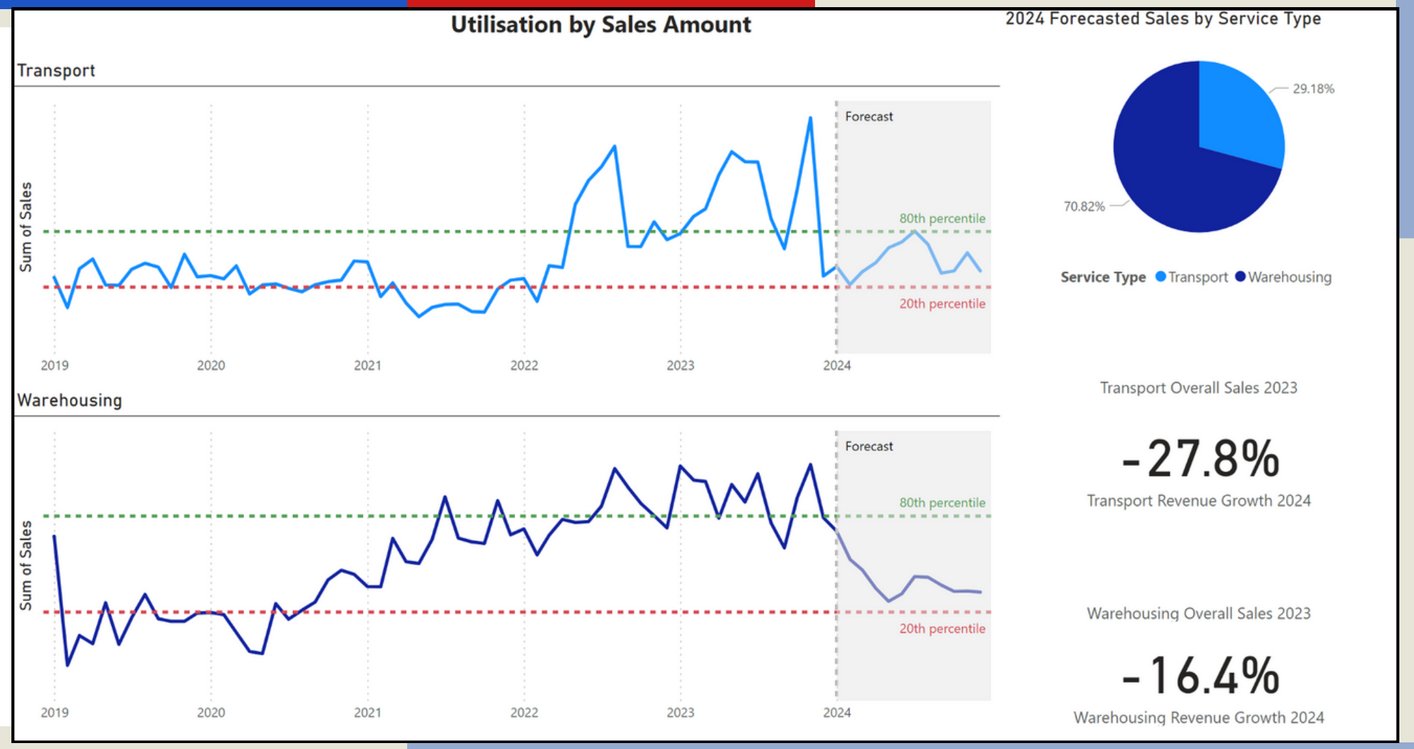
- Provides end to end logistic solutions
- Does not have an integrated system for data storage
- Lack expertise in data analysis and sales prediction to optimise existing resources

OBJECTIVES

1. Data Analysis on historical sales to analyse trends for both warehouse, transport and individual customers
2. Predictive model to forecast future overall sales for transport and warehouse, as well as for the top 10 customers each
3. Identify down periods and offer solutions to GKE to increase sales
4. Create dashboards to provide a visual analysis of data



Blue: 2023 Actual Sales **Red**: 2023 Forecast Sales



INSIGHTS FROM DASHBOARD

- **Forecasted revenue growth in 2024 is negative**
  - Model may have accurately captured long term trends and patterns but **struggles to account for short term anomalies** caused by the post-COVID recovery period
  - **Spikes are unlikely to persist indefinitely** as reflected in the pessimistic forecast

OUR APPROACH – DATA FORECASTING

DV: Local amount
IVs: Charge Amount; Quantity; Lagged Local Amount (monthly)

Train: 80% (first 4 years: 2019 - 2022)
Test: 20% (last 1 year: 2023)

Warehousing (Regression + ARIMA)
- Adjusted R2: 0.83
- MAPE: 5.81%

Transport (Regression)
- Adjusted R2: 0.94
- MAPE: 8.50%

RECOMMENDATIONS

1. Standardisation of generating transportation quotations
   a. Use metrics or other factors that contribute to determining the cost of the type and quantity of transport service
2. Benchmarks of high and low periods for individual customers
   a. Attracting new customers or offering other services to existing customers during down periods
3. Strengthen existing customer relations
   a. Recommending transport services to warehouse customers

SPECIAL THANKS TO:

Professor Benjamin Lee
Professor Chua Wan Rong
GKE Team

TEAM MEMBERS (GRP 3):

Abigail Woon Tian Hui
Lau Jing Yi
Lim Zhuo Yuan Elizabeth
Ng Shi Qing
Rachel Ang Hwee Suan
Trudy Choong Jia-En