

Tesca Grocery Chain Project

□ Background:

- *Tesca Grocery chain consists of 830 stores in 74 states*
- *Distribute products received from certified vendors to stores*
- *Stores 40 products in 7 departments, such as frozen foods and dairy*
- *Bar codes are scanned directly into the cash registers' POS System by Sales person*
- *Sales Products are promoted via coupons, temporary price reductions, ads, and in store promotions*
- *Purchasing department received products from vendor*
- *Salespersons overtime hours are captured in Excel by Sales Manager*
- *Human Resources Department already provided download CSV files of uncleaned employee misconduct and absence data with many duplications, and anomalous absence and misconduct data*

Below are the de-duplication business rules:

- *The first entry of the absence data for a day is the right record to be retained*
- *The last entry of the employee misconduct data for a day is the right record to be retained*
- *Backup of the Tesca Grocery Chain Transaction Processing System has been provided to you*
- *Database Administrator has granted full administrative privileges on both Analysis and Relational Database Instances*

□ Analytic Requirements:

1. *Need to know what is selling in the stores each day to evaluate product movement, as well as to see how sales are impacted by promotions*
2. *Need to understand the mix of products in a customer's market basket*
3. *Changes to Point of Sales Device on each channel are recorded to know the frequency of channel POS device replacement*

4. *Need to understand the most ordered products from each Vendor in each store*
5. *The management decided to track changes to vendor information to determine the impact on the delivery services*
6. *Sales Manager is interested to know the effects of product rebranding on Sales*
7. *Human Resources Management needs to know the effects of changes to marital status on salesperson's overtime hours*
8. *Needs to perform sales analysis on overall product brand sales and rebrand product sales*
9. *Purchasing Manager needs to know the efficient vendors based on differential days between order date and delivery date*
10. *Sales Manager needs to know what are the most demanding products for each time period of the day*
11. *Employee misconducts analysis is requested by the management as part of the ongoing strategy to improved work ethics and customer satisfaction*
12. *Need to understand Employee Absence trends for performance appraisal and to proactively plan for new employee recruitment to meet the service expectation of Tesca customers*

Deliverables:

- *You are required to build an Enterprise Data ware housing that addresses the analytic requirements*
- *Build Data Mart Cubes for functional areas based on the analytic requirements using SQL Server Analysis services (Using both Multidimensional and Tabular Models)*
- *Using Tableau and Power BI to design Data Visualisations for business users and management to enable informed decisions*