PREDICTIVE ANALYTICS FOR RESTAURANT BUSINESS

Cenacle Research India Private Limited

Business Challenges

- Customer Retention
- Cost Reduction

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- These two are not necessarily independent
  - Fixing one might often fix the other automatically

- There could be more apart from the above
  - But all of them can be potentially expressed in terms of one of the above

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  - Response Time
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- Secondary Drivers: Price, External Factors (weather…)
  - What if tomorrow rains? Would it affect my sales?
    - Rather what if tomorrow is Sunny?
  - What if the Christmas falls on Sunday? How would my sales be?

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- Solution: Predictive Analytics

CUSTOMER ORDER PREDICTION

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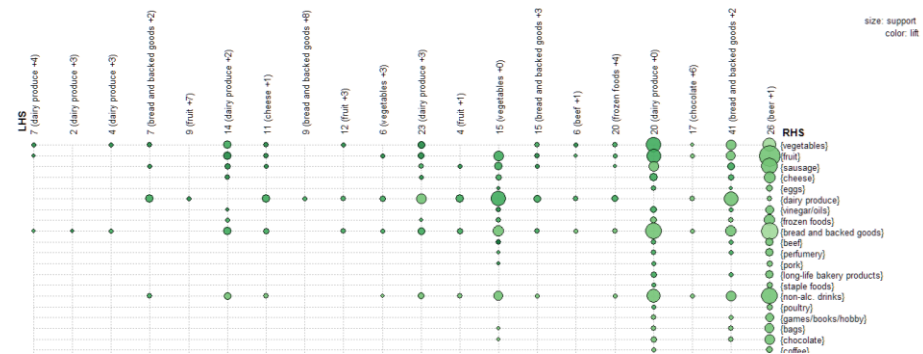
Agenda

- Model Demonstration
  - Order Prediction
  - Association Rules
  - Features:
    - Single-line command interface
    - CSV I/O – ready for any pipeline integration
    - Robust forecasting algorithms
    - Analysis on multiple levels
    - Forecast results from multiple models
    - Vast output of auxiliary data (useful for further analysis)
- Discussion for adjustments in I/O
- Future Model possibilities

Model

- Order Prediction
  - How many orders expected in the next 7 days?
  - Results from multiple prediction algorithms

- Association Rules
  - Which items are being frequently ordered together?
  - Can lead to better pricing strategy

- Note:
  - Input data format:
    - Dates to be in 'YYYY-MM-DD' format
    - CSV files to be clean
  - Input Order data
    - Reasonable order quantity to get accurate predictions

Features

- Item-wise sale predictions
  - Cost-cutting
    - Drop the low sale items from menu for specific days
  - Inventory management
    - Right levels of stock reduces waste, improves quality
  - Labor schedules
    - Improves customer satisfaction, increases work-life balance for employees
- Customer churn analysis
  - Who are the customers most likely to stay, who would deflect?
  - Design custom loyalty programs to increase sales
  - When is the next customer visit most likely?
  - Price analytics: what would be the effect of price increase on each?

Features

- Exploratory Analysis
  - What are the top-3 drivers for my sales during Holiday Season?
  - Which section needs more labor and during which period?
  - What are the effects of Weather on my business?
  - If I drop an item from my product list, how would it affect other item sales?
- Social Network Sentiment Analysis
  - What are people talking about my brand?
  - How many people are feeling positive about my products?
  - How are my competitor's products faring against my products?
  - What is the most (dis)liked feature about my product/service?
  - If I release new product, how many people are likely to buy it?

Big Data + Predictive Analytics

- At Cenacle Research we build Analytics Engines for
  - Automotive
    - E.g.: Predictive Maintenance (CBM) systems
  - Healthcare
    - E.g.: Personalized Medicine Regimes and Decision Support Systems
  - Retail
    - E.g.: Real-time Recommendation Engines
  - Energy
    - E.g.: Demand Planning using Smart Metering Systems
  - BFSI
    - E.g.: Usage-based Insurance Systems

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  - Big-data is what powers these engines

Big Data

It Lets you do More …

Big Data

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Write to us at: http://cenacle.co.in/

DO MORE .

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